BUREAU OF

Building Inspection

DEPARTMENT OF PUBLIC SAFETY,

CITY OF PHILADELPHIA,

PENN'A.

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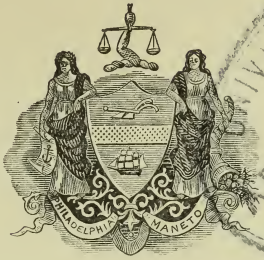
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DEPARTMENT OF PUBLIC SAFETY

HENRY CLAY, DIRECTOR



UNIVERSITY OF ILLINOIS
ARCHITECTURE,

Bureau of Building Inspection

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RELATING TO THE BUREAU

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ACTS OF ASSEMBLY

No. 123.

AN ACT

Entitled an act to create a Bureau of Building Inspection, and to regulate the construction, maintenance and inspection of buildings and party walls in cities of the first class.

Bureau of Building Inspection established.

Section 1. Be it enacted, etc., That there shall be in the cities of the first class a Bureau of Building Inspection attached to the Department of Public Safety, and under the supervision and control of the Director of Public Safety.

Qualifications of Chief of Bureau.

Section 2. The chief officer of said Bureau shall be called the Chief of the Bureau of Building Inspection, and shall be either a practical builder, civil engineer, bricklayer or carpenter; the other officers of the said Bureau shall consist of such number of inspectors, clerks and messengers as the City Councils may, from time to time, by ordinance determine. All of said officers shall be appointed by the Director of Public Safety. All of the inspectors shall be either practical builders, civil engineers, carpenters or bricklayers, but shall not all be of the same occupation. None of the aforesaid officers shall be employed or engaged in any other business or be interested in any contract for building or furnishing materials to be used for building in the said cities. The City Councils shall, from time to time, fix their salaries. Every such inspector, before he enters upon the duties of his office, shall be required to make and subscribe, before

Additional officers of Bureau and who shall appoint.

Qualifications of inspectors.

Shall not be in any other business.

Salaries.

Inspectors to make oath or affirmation.

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some person authorized by law to administer the same, the following oath or affirmation: "I do solemnly and sincerely swear, or affirm (as the case may be), that I am duly qualified by law to act as an inspector of buildings, and that I will faithfully, impartially and truly execute and perform the duties of an inspector of buildings, and see that the buildings inspected by me are built as required by the laws of this Commonwealth, according to the best of my judgment and abilities." Which said oath or affirmation shall be reduced to writing and filed in the office of the Prothonotary of the Court of Common Pleas, and shall be entered on the record in said office; every such person shall, moreover, before entering on the duties of his office, execute a bond to the Commonwealth, in the sum of five thousand dollars, with one or more sureties to be approved by the said court, or by two of the judges thereof in vacation, conditioned for the faithful performance of the duties imposed upon him by law, which bond shall be for the use of the said cities and of any and all persons who may be aggrieved by the acts or neglect of such inspector; and the bond hereinbefore provided for, conditioned for the faithful performance of his duties, shall be cancelled and marked satisfied of record by the City Solicitor upon the request of the Director of Public Safety; who shall first certify that the accounts of such inspector are correct, and that there is no default, and no claim has come to his knowledge from or on behalf of any person or persons alleged to have been aggrieved by the acts or neglect of such inspector.

Form of oath.

To be reduced to writing filed and recorded.

Inspectors to execute bond in sum of $5000 for faithful performance of duties.

When to be cancelled and how.

Chief of Bureau to have management and control.

Section 3. The Chief of the Bureau of Building Inspection shall, under the direction of the Director of Public Safety, have the management and control of all matters

pertaining to the Bureau of Building Inspection. In case of the temporary absence or disability of the Chief of the Bureau, the Director of Public Safety may appoint one of the inspectors as his deputy, and such deputy shall, during such absence or disability, exercise all the powers of the Chief of the Bureau.

When deputy shall have powers of Chief.

Section 4. The inspectors of buildings shall, under the direction of the Chief of the Bureau of Building Inspection examine all buildings in the course of erection as often as practicable, and shall make written reports to the said Chief of the Bureau of Building Inspection of all violations of this act, together with the street and number where such violations are found, the name of the owner, agent or contractor, and other matters relative thereto. The inspectors of buildings shall, under the direction of the Chief of the Bureau of Building Inspection, examine all buildings damaged by fire or accident; a record shall be made of all walls or buildings found unsafe or dangerous, with the name of the owner or agent, and the street and number where such dangerous walls or buildings exist.

Examinations of buildings.

Written reports of visitations to the Chief.

Examination of damaged and dangerous buildings.

Record.

Section 5. It shall be unlawful to proceed with the erection, enlargement, alteration, repair or removal of any building or part thereof, or any platform or staging to be used for standing or seating purposes, or of any structure within the meaning of any of the provisions of this act, unless a permit shall first be obtained from the Bureau of Building Inspection; application for permits shall be made in writing by the owner or his agent, and shall be made upon forms or blanks to be issued for that purpose; the said application shall remain on file with the Bureau of Building Inspection. The Chief of the Bureau may

Permits for erection, alterations, etc., must be obtained.

Application for permits.

How to be made.

To be filed.

Plans and specifications.

Affidavit.

Plans and specifications approved by Bureau.

Notice to persons affected by proposed work.

Plans and detailed statements.

require, in addition to the application for a permit, such plans and specifications as shall sufficiently set forth the extent and character of the work in all its structural parts, together with an affidavit of the truth of the facts set forth in the application, and no permit shall be given until the application, together with the plans and specifications accompanying and illustrating the same, have been approved by the Bureau of Building Inspection; but no such plans and specifications shall be approved unless they conform to the provisions of this act. The Chief may require any applicant for a permit to give notice of the application to any persons whose interests may be affected by the proposed work. Nothing in this section shall be construed to prevent the Chief of the Bureau of Building Inspection from granting a permit for the erection of a building or other structure where plans and detailed statements have been presented for the same before the entire plans and specifications have been submitted.

Buildings, etc., must conform to application, plans, etc.

Duplicate set of approved plans and specifications.

Chief or Inspectors may order changes.

Notice to be given.

Section 6. It shall be unlawful to erect any building or other structure, for which permit has been granted, except it be in conformity with the application and the plans and specifications on file and approved by the Bureau of Building Inspection. A duplicate set of the approved plans and specifications must be kept at the building or other structure during its erection or alteration and be accessible at all times to the inspector. The Chief of the Bureau of Building Inspection, or any inspector of said Bureau under the direction of the Chief, shall have authority to order any change from the application or plans and specifications on file in the office of the Bureau. Should it be found, upon inspection, that there are conditions which make such change necessary, notice of such

change shall be given in writing to the owner or his agent, or to the contractor in charge of the work: Provided, That no such change shall be made except it conform to the provisions of this act. Proviso.

Section 7. Permits shall be granted or refused within fifteen days after the application and the submission of the plans and specifications. Every permit shall be considered cancelled if active work is not commenced within the period of six months from the date of its issue. Ordinary repairs to buildings may be made without notice to the Bureau of Building Inspection, but such repairs shall not be construed to include the cutting away of any stone or brick wall, or any portion thereof, the removal or cutting of any beam or support; or the removal, change or closing of any stairway. Permits shall be granted or refused within fifteen days. Cancellation. Ordinary repairs may be made without notice.

Section 8. Any applicant for a permit from the Bureau of Building Inspection required by the act, whose application has been refused or any person who has been ordered by the inspector to incur any expense, may appeal by giving notice in writing of such appeal. If the appeal shall be from an order refusing a permit, it shall be taken within fifteen days from the refusal of such permit and not thereafter. If the appeal is from an order to take down and remove a dangerous building or structure, or a dangerous wall or walls, it shall be taken within three days from the issuing of such order and not thereafter. In computing the time within which an appeal may be taken, if the last day shall fall on Sunday or on a legal holiday, the appeal shall be taken on the preceding day. Notice of appeal may be given by leaving the same at the office of the Bureau of Building Inspection, either with the inspector or with the Chief of the Bureau or with the clerk. Appeals from decision of Bureau, or order of Inspector. If from an order refusing permit. If from an order to remove dangerous building or walls. Computation of time for appealing. Notice of appeal, how given.

Appeal after permit has been issued.

Section 9. Any person, the value of whose property may be affected by work done or to be done under any permit granted by the Bureau of Building Inspection, may, within three days after the commencement of the work, appeal by giving notice in writing that he does so appeal. All cases in which appeals have been taken as above provided shall be referred to the entire corps of building inspectors as a Board of Appeal. The said Board of Appeal shall, after hearing, direct the inspector to issue his permit under such conditions, if any, as they may require, or to withhold the same, or make such other and further order in the premises as to the board shall seem proper: Provided, That should any party aggrieved object to the decision of the Board of Appeal, he, she or they may further appeal in writing to the Director of the Department of Public Safety within three days of the decision of the Board of Appeal, specifying in such appeal the reasons and ground therefor, and accompanying the same by the sum of thirty (30) dollars. The Director of the Department of Public Safety shall thereupon appoint an examining commission, to consist of three disinterested experts, who shall be either master builders, engineers, or architects, who shall, within such time as the director shall specify, carefully consider the said appeal and make decision thereon. The decision of any two shall be the decision of the commission. They shall be paid for their services ten (10) dollars each.

Board of Appeal.

Appeal from decision of Board.

Examining Commission to be appointed to consider appeal.

Decision shall be final.

Compensation.

When decision of Inspector shall be final

Section 10. The decision of a building inspector, unappealed from, shall be final and conclusive in any subsequent proceeding on the matter in question in court or otherwise. The decision of the Board of Building Inspectors as a Board of Appeal, in case such decision is not appealed from as above provided, shall be final and con-

When decision of Board of Appeal shall be final.

clusive in any subsequent proceeding in court or otherwise. The decision of the examining commission, in case of appeal to such commission, shall be final and conclusive when certified to the building inspectors: Provided, however, That no commission, named in accordance with this act, shall have any power or authority to set aside or nullify or alter any of the provisions herein, or order or require any permit to be issued for a building to be constructed otherwise than is herein required.

When decision of examining commission shall be final.

Commission cannot nullify provisions of act.

Section 11. All buildings hereafter erected or altered in said cities, except such as are hereinafter provided for, shall have all outside or division walls constructed of stone, brick, iron or other hard, non-combustible material, properly bonded and solidly put together; all the said walls shall be built to a line and carried up plumb and straight, and the several component parts of such buildings shall be constructed in such manner as herein provided. Provided, That Councils may, by a general ordinance, permit and regulate the construction of frame buildings in the rural portions of said cities, within such limits as may be designated in said ordinance.

Buildings to be of incombustible material.

Material and construction.

Frame buildings in rural portions of cities.

Section 12. The foundation walls of all buildings, excepting those that are erected on wharves or wharf piers on a water front, shall be laid not less than three feet below the exposed surface of the earth on the solid ground or level surface of rock. Where solid earth or rock is not obtainable, the said walls may be supported by a foundation of wooden piles or caissons, filled with concrete or such other foundation as the Bureau of Building Inspection shall direct. Piles intended for a wall, pier or post to rest upon shall not be less than

Foundation walls.

Piles or caissons.

Dimensions and spacing of piles.

five (5) inches in diameter at the smaller end, and shall be spaced not more than thirty (30) inches on centres, or nearer if required by the Bureau of Building Inspection, and they shall be driven to a solid bearing. No pile shall be weighted with a load exceeding forty thousand (40,000) pounds. The tops of all piles shall be cut off below the lowest water line where required; concrete shall be rammed down in the interstices between the heads of the piles to the depth and thickness of at least twelve (12) inches, and for one foot in width outside of the piles. Where ranging and capping timbers are laid on piles for foundations, they shall be of hard wood, not less than six (6) inches thick, and properly joined, and their tops laid below the lowest water line.

Weight not to exceed 40,000 pounds.

Concrete.

Piles to be hard wood.

Load limits of other foundation.

Section 13. Foundations of other materials than piles shall be so proportioned that the loads upon the soil shall not exceed the limits for the different kinds of soil than herein given, to wit: sand and loose gravel, three and one-half tons per square foot; dry, hard clay, three and one-half tons per square foot; cemented gravel, six tons per square foot; for soils other than those above specified, the loads to be determined by the Bureau of Building Inspection. No foundation shall be laid on any soil containing organic matter.

Footing or base course, construction of.

The footing or base course shall be of stone or concrete, or both, or steel beams bedded in concrete, or concrete and stepped-up brickwork; all of the said footing or base courses to be of sufficient thickness, breadth and strength to safely bear the weight to be imposed thereon. If the footing or base course be of concrete, the concrete shall not be less than twelve (12) inches thick; if of stone, the stones shall be laid edge to edge, and shall not be less than two (2) by three (3) feet,

If of concrete.

If of stone.

and at least eight (8) inches in thickness for walls, and ten (10) inches in thickness for piers or columns. If stepped-up footings of brick are used in place of stone above the concrete, the offsets shall be laid in single courses, and shall not exceed one and one-half inch, starting with the brickwork, covering the entire width of the concrete. If steel beams or rails are used for a footing or base course, they must be thoroughly embedded in concrete, the ingredients of which must be such that after proper ramming the interior of the mass will be free from cavities; the beams or rails must be entirely enveloped in concrete, and around the exposed external surfaces of such concrete there must be a coating of cement, of standard quality, at least one (1) inch thick; this concrete, and all concrete in contact with metal work, shall be made of Portland cement, and the broken stone used shall not be limestone of any character.

If stepped-up footings of brick are used.

If steel beams or rails are used.

Concrete and cement.

Portland cement.

No limestone to be used.

Section 14. All foundation walls and cellar walls shall be built of stone or brick; if constructed of stone, they shall be at least six (6) inches thicker than the wall next above them to the depth of twelve (12) feet below said wall, and shall be increased six (6) inches in thickness for every additional ten (10) feet in depth below the said twelve feet; and if of brick, they shall be at least four (4) inches thicker than the wall next above them to a depth of twelve (12) feet below the said wall, and shall be increased four (4) inches in thickness for every ten (10) feet below said twelve feet; if there be cellars or excavations, foundation walls, except in dwelling houses, shall start at least twelve (12) inches below the cellar bottom. Foundation walls for dwellings, private stables and carriage houses, and buildings of a light character, if of stone, shall not

Foundation walls, how built.

If of stone.

If of brick

Where foundations start if there are cellars, etc.

Foundation walls of dwellings, houses, etc.

be less than eighteen (18) inches thick; all foundations shall be sufficiently strong to resist lateral pressure. In buildings built to the street grade, the foundation shall not be built above the curb level: Provided, That the Bureau of Building Inspection may exempt buildings from this requirement when it appears to the Bureau that the buildings are located on a street which is not likely to be used for business purposes, and that the said Bureau may make necessary rules and regulations for such exemption.

Foundation walls not to be above curb level.

Buildings exempt.

Stone walls, how to be laid, etc.

Section 15. All stone walls shall be laid to a line, plumb and straight, and shall be faced on both sides. Walls twenty-four inches or less in thickness shall have at least one header extending through the walls every three (3) feet in height from the bottom of the wall and in every four (4) feet in length, and if over twenty-four inches in thickness shall have one header for every six (6) superficial feet on both sides of the wall. All headers shall consist of good flat stones; each stone shall be thoroughly bedded in mortar under the entire area, in such manner that it will not rock. All interstices between individual stones must be thoroughly filled with mortar, and, if the spaces should be large, pieces of broken stone must be driven into the mortar. Walls used for underpinning shall be composed of large flat stones or hard brick, as the Bureau of Building Inspection may direct, the said walls to be laid up in cement mortar. Where wedges are used, the said wedges shall be of iron or steel. This section shall not be construed to prevent the building of such battered walls as shall be approved by the Bureau of Building Inspection.

Headers through walls.

Bedded in mortar.

Walls for underpinning.

Wedges.

Battered walls.

When lime mortar may be used.

Section 16. Foundation walls of dwellings, stables and carriage houses, and

buildings of similar light construction, may be laid in lime mortar. The foundation walls of all other buildings shall be laid in cement mortar: Provided, That this section shall not be construed to prohibit the use of cement and lime mortar, when in the judgment of the Chief of the Bureau of Building Inspection the nature of the construction may permit of its use.

Proviso.

Concrete and mortar to be thoroughly mixed.

Section 17. It shall be unlawful to use concrete, or mortar of any kind, the ingredients of which are not thoroughly mixed, and which are not free from lumps or other unmixed portions of any of the ingredients. Cement mortar shall be made of sand and cement in the proportions of not more than three parts of sand to one part of cement, and shall be used immediately after mixing. Cement and lime mortar shall be made of one part lime, one part cement, and three parts sand to each. Lime mortar shall be made of not more than four parts of sand to one part of fresh-burnt lime, and shall not be used before being thoroughly slaked. Concrete for footings and foundations shall be made of one part of cement, two parts of sand, and five parts of small, clean, broken stones. Cement used in all the said mortars and concrete shall be Portland, or other equally good quality; the sand shall be clean and sharp and free from earthy matter.

Proportions of Cement Mortar

Proportions of cement and lime mortar.

Lime mortar.

Concrete, how to be made.

Portland Cement.

Sand.

Minimum thickness of brick walls for business Manufacturing and public buildings.

Section 18. The thickness of brick walls for business, manufacturing and public buildings, seventy-five to one hundred and twenty-five feet long by twenty-six feet or less, clear span, shall not be less than the number of inches in the following table:

STORIES.

	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.
One-story	13	..	..	..	..	..	..	..	..	..	..	..
Two-story	13	13	..	..	..	..	..	..	..	..	..	..
Three-story	18	13	13	..	..	..	..	..	..	..	..	..
Four-story	18	18	13	13	..	..	..	..	..	..	..	..
Five-story	22	18	18	13	13	..	..	..	..	..	..	..
Six-story	22	22	18	18	13	13	..	..	..	..	..	..
Seven-story	26	22	22	18	18	13	13	..	..	..	..	..
Eight-story	26	26	22	22	18	18	13	13	..	..	..	..
Nine-story	30	26	26	22	22	18	18	13	13	..	..	..
Ten-story	30	30	26	26	22	22	18	18	13	13	..	..
Eleven-story	34	30	30	26	26	22	22	18	18	13	13	..
Twelve-story	34	34	30	30	26	26	22	22	18	18	13	13

Less than 75 feet long.

For buildings of the same character, less than seventy-five feet long; also, hotels, apartment and tenement houses, the thickness of the walls may be reduced by making the three upper stories thirteen (13) inches thick, and following from that down to the lowest story in the same sequence as in the above table. Non-bearing walls of buildings, hereinbefore in this section specified, may be four (4) inches less in thickness: Provided, however, That none are less than thirteen (13) inches thick except as hereinafter specified. If there is to be a clear span of over twenty-six feet between walls, the bearing walls shall be four (4) inches more in thickness than is in this section specified, for every thirteen (13) feet or fraction thereof, the said walls are more than twenty-six feet apart; all buildings over one hundred and twenty-five feet in length or depth, without a cross wall or proper piers or buttresses, shall have the side or bearing walls increased in thickness four (4) inches more

Non-bearing walls.

Proviso.

Clear span of over 26 feet.

Buildings over 125 feet long.

than is specified, for every seventy-five (75) feet or fraction thereof that said walls are over one hundred and twenty-five feet in length. The amount of materials elsewhere herein specified may be used in either piers or buttresses, but no curtain wall between such pier or buttress shall be less than thirteen (13) inches thick. Walls surrounding stairs, elevator shafts, fire escapes and light wells, if of brick, shall not be less than eight (8) inches thick; but they shall be increased in thickness, with the increase in height, to a sufficient extent to keep the load on the brick work within the maximum load elsewhere herein specified. Nothing in this section shall be construed to prevent the erection of light wells, constructed of a framework of iron or steel, filled in with glass.

Thickness of curtain wall.

Walls about stairs, elevator shafts, etc., thickness of.

Light wells of iron or steel.

Section 19. The height of stories for all given thickness of walls must not exceed eleven (11) feet in the clear for basement, eighteen (18) feet in the clear for the first story, fifteen (15) feet in the clear for the second story, fourteen (14) feet in the clear, average height, for any upper story; and if any story exceeds these heights, respectively, the walls of such story and all the walls below the same shall be increased four (4) inches in thickness, additional to the thickness already mentioned.

Height of Stories

Increase of thickness.

Section 20. Stores, warehouses and factories over twenty-six feet, clear span, shall have the floors carried on brick partition walls, or girders supported by columns of wood or iron, or piers of masonry. Iron or steel trusses or girders may be used: Provided, The supporting walls are increased in thickness by the addition of piers or buttresses to a sufficient extent to keep the load on the brickwork within

Buildings over 26 feet clear span shall have brick partition walls, or girders supported by columns, etc.

Iron or Steel trusses may be used.

Proviso.

the maximum load elsewhere herein specified.

No wall to be carried up more than two stories in advance.

Section 21. In no case shall any wall or walls of any building be carried up more than two stories in advance of any other wall without the permission of the Bureau of Building Inspection. The front, rear, side and party walls should be properly bonded together, or anchored to each other, every six (6) feet in their height, by wrought-iron tie anchors not less than one and one-half (1½) inches by three-eighths (⅜) of an inch in size. The said anchors shall be built into the side or party walls not less than sixteen (16) inches, and into the front and rear walls so as to secure the front and rear walls to the side or party walls when not built and bonded together.

Walls to be bonded and anchored.

Tie anchors.

Brick walls, how constructed.

Section 22. In brick walls, at least every seventh course of brick shall be a heading course, except where walls are faced with face brick, in which case at least every seventh course shall be bonded with Flemish headers, or by cutting the corners of the face brick and putting diagonal headers behind the same, or iron ties. In all buildings where the walls are built hollow the same amount of brick or stone wall shall be used in their construction as if they were solid, as heretofore set forth, and no hollow bearing walls shall be built unless the two walls forming the same shall be connected by proper ties of the same material as the walls, or stone or iron, placed not over two feet apart. The inside four inches of all walls may be built of hard burnt hollow clay, or porous terra-cotta, blocks properly tied and bonded into the walls, and of the dimensions of ordinary brick.

Walls built hollow, how constructed.

Hollow bearing walls.

Brick walls shall be bonded.

Section 23. All walls of brick shall be thoroughly bonded and solidly put to-

gether, and shall be built to a line, plumb, level and straight; all bricks to be laid and bedded with well filled joints. Every course when laid shall have the joints well flushed up; all bed joints not covered are to be struck. The brick walls below the curb level of all buildings, other than dwellings and buildings of a similar light construction, shall be laid in cement mortar. Piers built for the support of any column, post or wall shall be laid in cement mortar: Provided, That this section shall not be construed to prohibit the use of cement and lime mortar, when in the judgment of the Chief of the Bureau of Building Inspection the nature of the construction may permit its use. The brick used in all buildings of this character shall be good, hard, well burned and well-shaped brick.

How laid.

Brick walls below curb level.

Piers.

Proviso.

Quality of brick.

Section 24. Inspectors of buildings shall, upon the application of any owner or owners of any buildings or their authorized agents, or upon the application of any person or persons about to erect any new building or buildings, examine any or all existing party or division walls, and if they are deemed by the Inspector to be defective, out of repair, or insufficient and unfit for the purpose of the old building existing upon the adjoining premises, or of the new buildings about to be erected, such party or division wall or walls shall be repaired or made good or taken down by the parties building, as the Inspector's decision may be. In every case where such wall or walls are defective, out of repair, or insufficient for the purpose of the buildings there existing upon the adjoining premises and using the same, the cost or expense of such repair or removal, together with the expense of the new wall or walls to be erected in lieu thereof, shall be borne and paid by the owner of said buildings

Inspectors to examine party or division walls.

If deemed defective, etc.

To be made good or taken down.

The cost of repairs or removal.

By whom to be paid.

upon the adjoining premises and the party erecting the new buildings in proportion to the amount of such wall or walls which is or shall be respectively used by their said buildings; and in every case where such wall or walls are defective, out of repair, or insufficient only for the purpose of the new buildings, the cost and expense of such repair or removal, together with the expense of the new wall or walls to be erected in lieu thereof, shall then be borne and paid exclusively by the parties erecting the new buildings, and they shall also in such case make good all damages occasioned thereby to the adjoining premises.

Damages to be made good.

Old party **walls may be used**

Section 25. Walls heretofore built for or used as party walls, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this act, may be used, if in good condition, for the ordinary use of party walls: Provided, The height of the same be not increased. In case it is desired to increase the height of the existing party or independent walls, which walls are less in thickness than required under this act, the same may be done with a lining of brickwork to form a combined thickness with the old walls of not less than four inches more than the thickness required for a new wall, corresponding with the total height of the wall when so increased in height. The said lining shall be supported on proper foundations and carried up to such height as the Bureau of Building Inspection may require. No lining shall be less than nine (9) inches in thickness, and all lining shall be laid up in cement mortar, and thoroughly anchored to the old brick walls with suitable wrought iron anchors, placed two feet apart, and properly fastened or driven into the old walls in rows, alternating vertically and

Proviso as to height.

How height **may be increased.**

Linings to **be on proper foundations.**

Thickness of linings, how laid, etc.

To be thoroughly anchored.

horizontally with each other; the old walls being first cleaned of plaster and other coatings where any lining is to be built against the same. In all cases where there is such increase of walls a new foundation shall be built, in such manner as to carry jointly both the new and old walls, and the soil under such foundation shall not be loaded beyond the limits elsewhere herein specified. This section shall not be construed to prohibit the raising of the party walls in dwellings an additional story, if upon inspection the walls are found good, and the load on the brickwork is within the maximum elsewhere herein specified.

Old walls to be cleaned.

New foundations to be built.

Raising of party walls in dwellings.

Section 26. No recess shall be made in any wall more than one-third of its thickness. Recesses for alcoves shall not exceed eight (8) feet in width, and shall be arched over and not carried up higher than eighteen (18) inches below the floor next above. The aggregate area of recesses in any wall shall not exceed one-fourth of the whole area of the face of the wall on any story, nor shall any such recesses be made within a distance of six (6) feet of any other one in the same wall. If there be stone ashlar used for the facing of any building, the said stone ashlar, if three inches thick or less, shall not be reckoned in the thickness of the wall. All stone used for the facing of any building, except where built of alternate headers and stretchers, shall be strongly anchored with iron anchors, set in each stone at least one (1) inch.

Recesses in walls.

Area of

Distance apart.

Stone ashlar.

Stone facing to be anchored.

Section 27. The minimum thickness for all walls of dwellings, private stables and carriage houses, and buildings of a similar light construction, shall be as follows: All such buildings with a width of sixteen (16) feet or less, providing they do not exceed sixty (60) feet in length and thirty-five (35)

Minimum thickness of wall for dwellings, etc.

Dimensions.

feet in height, shall have walls of not less than nine (9) inches. If over sixteen (16) feet and less than eighteen (18) feet in width, the party walls shall be thirteen (13) inches thick, and the side or gable walls nine (9) inches thick. If eighteen (18) feet and over and less than twenty (20) feet in width, the side or gable walls shall be thirteen (13) inches for two stories. If twenty (20) feet and over in width, all the walls shall be at least thirteen (13) inches thick the entire height. No soft or salmon brick shall be used in the exposed walls of any building described in this section. All walls shall be squared up thirteen (13) inches thick, with hard brick to the first floor joists. The Chief of the Bureau may increase the thickness of any of the walls herein specified, if in his judgment the nature of the construction requires it to be done. Party walls if built of stone shall not be less than sixteen (16) inches. The party walls of all buildings shall be built up and extended at least ten (10) inches above the roof, and shall be coped with stone or metal or other hard incombustible material. Where the roof is Mansard, unless the same is constructed of fire-proof material throughout, the lower slope of said wall shall extend at least six inches distant and parallel with the roof covering, and be corbelled to the outer edge of all projections and coped with incombustible material. All party walls shall be built solidly from cellar bottom to the top of the fire wall: Provided, That with the approval and under the supervision of the Bureau of Building Inspection openings may be made in party walls of contiguous buildings.

No soft brick to be used in exposed wall.

The Chief may require increase of thickness.

Party walls of stone.

Where roof is mansard.

Party wall shall be built solidly.

Proviso.

Dwellings to be not less than 14 feet in width.

Proviso.

Section 28. No dwelling house shall be erected on a lot of a less average width than fourteen (14) feet: Provided, That this limitation shall not apply to lots of

less than fourteen feet in width having buildings erected thereon. Provided further, That a dwelling house may be erected on a lot of less width than fourteen (14) feet, and a lot of less width than forty-two (42) feet may be sub-divided into lots of equal width, upon which dwelling houses may be erected, but no such lot shall be decreased in width to a greater extent than five per centum of fourteen (14) feet. This provision shall only apply when the aforesaid lots are bounded by ground having buildings erected thereon at the time of the approval of this act, or when bounded on each side by ground belonging to other owners at the time of the approval of this act, and every such dwelling shall have an open space attached to it in the rear or at the side equal to at least one hundred and forty-four (144) square feet of clear space, unobstructed by any overhanging structure. In all dwellings hereafter erected the cellars shall extend underneath the whole house and be ventilated from both ends. In low, damp or made ground the bottom of all cellars shall be covered with concrete or asphalt at least three (3) inches thick, or such material as shall be approved by the Bureau of Building Inspection.

Lots not to be decreased more than 5 per cent. of 14 feet.

Open yard space attached to dwellings.

Extent of cellars, ventilation of.

Section 29. In buildings hereafter erected, altered or repaired, all chimneys shall be built of brick, stone or other incombustible material. Brick chimneys shall have walls at least nine (9) inches thick, unless terra-cotta flue linings are used, in which case four and one-half (4½) inches of brickwork may be omitted. All chimneys or smoke flues shall have a wall nine (9) inches thick at the back, and when corbelled out shall be supported by at least five courses of brick, and, if supported by piers, the same shall start from the foundation on the same face with the breast above.

How chimneys shall be built.

Walls and linings.

To be bonded. All chimneys shall be bonded to the walls at every course from the bottom to the top.

Inside of brick flues. The inside of all brick flues shall be built of hard brick and have struck joints, except when lined with terra-cotta. All chimneys shall be topped out at least four (4) feet from above the top of the roof at point of contact, if a flat roof, and at least two (2) feet above the ridge of a pitched roof. No chimney shall be less than eight (8) by eight (8) inches when used as a smoke flue. No chimney in any building already erected or hereafter to be built shall be cut off below, in whole or in part, and supported by wood, but shall be wholly supported by stone, brick or iron, and all chimneys in any building already erected or hereafter to be erected, which shall be dangerous in any manner whatever, shall be repaired and made safe or taken down. No wood furring shall be used against or around any chimney, but the plastering shall be directly on the masonry or on the metal lathing. Flues of ranges and boilers, and other similar flues shall have the outside exposed to the height of the ceiling, or be plastered to the bricks.

How chimneys and flues shall be built.

How hearths shall be constructed. Section 30. All hearths shall be supported by trimmer arches of brick, stone, iron or concrete, or be of single stone at least six (6) inches thick, built into the chimney and supported by iron beams, one end of which shall be securely built into the masonry of the chimney or an adjoining wall, or which shall otherwise rest upon incombustible support. The brick jambs of every fire-place or grate opening shall be at least nine (9) inches wide each, and the backs of such openings shall be at least nine (9) inches thick. All hearths and trimmer arches shall be at least twelve (12) inches longer on either side than the width of such openings, and at least eighteen (18) inches wide in front of the chim-

Width of jambs.

Lengths of arches.

ney breast. Brickwork over fire-places and grate openings shall be supported by iron bars, or brick or stone arches. All brick-set or portable ranges shall be set on hearths of brick, slate or cement, the said hearths to extend at least twelve (12) inches beyond the face of the range. No brick-set or portable range, or heating apparatus of any kind, shall be set against a wood or lath and plaster partition.

Support of brick-work over fire-places, etc.

setting of ranges

Section 31. No stove-pipe in any building with combustible floors and ceilings shall hereafter enter any flue nearer than twelve (12) inches from the floor or ceiling, and in all cases when smoke-pipes pass through the stud or wooden partitions, floor or roof, whether plastered or not, they shall be guarded by either a double collar of metal, with at least two (2) inches of air space all around and holes for circulation of air, or by a soapstone ring or solid casting of plaster of paris, not less than three (3) inches in thickness, and extending through the partition, or by an earthenware ring one (1) inch from the pipe at every joint.

How stove pipes may enter flues.

Section 32. In all cases where hot water, steam, hot air or other furnaces are used, the furnace smokepipe shall be at least two (2) feet below the joists or ceiling above the same, unless said joists or ceiling shall be properly protected by a shield of metal plate suspended above the said pipe with at least three (3) inches of space for the free circulation of air above and below the said shield, in which case the smokepipes shall be kept at least ten (10) inches from the aforesaid joists or ceiling; and the tops of all furnaces set in brick must be covered with brick, slate or metal, supported by iron bars, and so constructed as to be perfectly tight; said covering to be in addition to and at least six (6)

Smokepipe of furnace to be two feet below joists.

Exceptions.

Tops of furnaces to be covered.

inches from the ordinary covering to the hot air chamber. The tops of all heating furnaces not set in brick shall be at least ten (10) inches below the joists or ceiling with a shield of metal plate made tight and suspended below the said joists or ceiling at least three (3) inches, and extending one (1) foot beyond the furnace on all sides. No boiler to be used for steam or motive power, and no furnace shall be placed on any floor above the cellar floor unless the same is set on non-combustible beams and arches, or an incombustible platform, and in no case without a permit from the Bureau of Building Inspection.

Placing of boilers.

How hot air registers shall be set.

Section 33. All hot air registers set in the floor of any building shall be set in a border of soapstone or other fire-proof material, and all floor or register boxes to be made of sheet metal with flange on top to fit the groove in the border, the register to rest upon the same, and there shall also be an open space of two (2) inches on all sides of the register box, extending from the under side of the ceiling to the border of the floor, the outside of the space to be covered with a casing of metal, made tight on all sides, and to extend from the under side of the aforesaid ceiling up to and turn under the said border. No tin or metal flue or flues, pipe or pipes, or register box or boxes of a single thickness of metal, used and intended to convey heated air in any building hereafter to be built, altered or repaired, shall be allowed, unless the same be built in a wall of brick or stone. In all other cases, the said flue or flues, pipe or pipes, register box or boxes, shall be made double; that is, two pipes, one inside the other, at least one-half (½) inch apart, or covered with wire lathing, and the studding covered with tin or other fire-proof material, so as to be thoroughly fire-proof: Provided, That it

All flues shall be protected.

To be made thoroughly fire-proof.

Proviso.

shall not apply to pipes leading from a heater to the hot air flue. No wood furring or lath shall be placed against any flue, metal pipe or pipes, used to convey heated air or steam in any building. No permanent or stationary heating apparatus of any kind whatever shall be introduced in any building now erected without a permit from the Bureau of Building Inspection.

Wood furring shall not be placed against flues, etc.

Section 34. In no building shall any wooden girders, joists or timbers be placed nearer than four (4) inches of the outside of any smoke, hot air or other flue; and all joists or other timbers in the party walls of any buildings hereafter erected whether built of stone, brick or iron, shall be separated from the joists or timbers entering into the opposite side of the wall by at least four (4) inches of solid mason work. Every trimmer over four feet long, except in a dwelling, shall be hung in wrought or malleable iron stirrups of suitable dimensions, and no timber shall be used in any wall of any building where stone, brick or iron is commonly used, except bond timbers and lintels as hereinbefore provided for, or as may be approved by the Inspector, and no exposed bond timber in any wall shall in width and thickness, exceed that of a course of brick. Where stud partitions are parallel with the joists, the joists supporting them are to be doubled in all cases. No wooden floor joists or roof rafters used in any building other than a frame building shall be of less thickness than three (3) inches. Each tier of joists shall be anchored to the bearing walls, at intervals of not more than ten (10) feet, with good, strong, wrought iron anchors. Where the joists are supported by girders, the girders shall be anchored to the walls, all the said joists or girders shall be so anchored that in fall-

Placing of wooden girders, etc.

Joists in party walls shall be kept 4 inches from the other side.

How trimmers shall be hung.

Exposed bond timbers.

Where stud partitions are to be doubled.

Joists, thickness of to be anchored, how placed.

ing they will free their own anchorage without injury to the wall. The ends of joists resting upon girders, if butted together end to end, shall be strapped with wrought iron straps at the same joist that is anchored to the wall, or they may lap each other and be thoroughly spiked or bolted together. Where joists are hung in iron stirrups from the girders they must be strapped as before described. Floor joists shall be placed not more than sixteen (16) inches from centre to centre, and must be properly bridged. All joists that are used must be sound and well seasoned. No floor joists shall be blocked up or levelled on more than one dry course of brick.

Floor joists.

Planking, etc., of roof shall not extend across party wall.

Section 35. The planking and sheathing of the roof of every building hereafter to be erected or altered shall in no case be extended across the party wall thereof, and every such building and the tops and sides of every dormer window thereon shall be covered with slate, zinc, tin, iron, copper, or such other equally good fire-proof material as the Bureau of Building Inspection may authorize; and the outside of every dormer window hereafter placed on any building as aforesaid, shall be made of some fire-proof material, and wooden buildings which require roofing, shall not be roofed with any other covering except as aforesaid: Provided, That this shall not apply to roofs and dormers in rural and suburban districts. Nothing in this section shall be construed to prohibit the repairing of a shingle roof, provided the repairs do not amount to over one-half of the value of said roof, in which case the whole must be replaced by some fire-proof material. All buildings shall be kept provided with proper metallic leaders for conducting water from the roof to the ground or sewer, in such manner as shall protect the walls and foundations from damage.

How dormer windows shall be covered.

Proviso.

Repairing of shingle roofs.

Materials and construction of water conductors.

Scuttle frames, bulkheads and doors.

Section 36. All buildings of three or more stories hereafter to be built with two or more stories back buildings, shall have scuttle frames and covers or bulkheads and door, and be covered with some fireproof material. All scuttles shall have stationary ladders leading to the same, and all such scuttles and ladders shall be kept so as to be ready for use at all times. All scuttles shall be in size of opening at least eighteen (18) inches by thirty (30) inches, and if a bulkhead is used in any building in place of a scuttle it shall have stairs, with a sufficient guard or handrail, leading to the roof; and in case the building be a tenement house, the doors or covers to the scuttle or bulkheads shall at no time be locked, but may be bolted or secured by hooks on the inside.

Stationary ladders for scuttles.

Bulkheads to have stairs.

Doors to same in tenements not to be locked.

Exterior cornices and gutters, material and construction of.

Section 37. All exterior cornices and gutters hereafter erected shall be of some fire-proof material, and in every case, except when carried on a frame work of iron or steel, the greatest weight of the material of which the cornice shall be constructed shall be on the inside of the outer line of the wall, allowance being made for the leverage produced by the projection of the cornice beyond the face of the wall: and in all cases the walls shall be carried up to the under side of the roof planking and where the cornice projects above the roof, the wall shall be carried up to the top of the cornice. All exterior wooden cornices that may be or shall hereafter become unsafe shall be taken down, and if replaced, shall be constructed of some fireproof material. All exterior wood cornices or gutters that may hereafter be damaged by fire or by decay to the extent of one-half the value thereof, shall be taken down, and if replaced shall be constructed of some fire-proof material, but if not damaged to this extent, may be repaired with

Unsafe wooden cornices.

Damaged by fire or water.

Cornices of adjoining buildings to be separated.

Wooden cornices.

the same kind of material of which originally constructed. The cornice on every building shall be separated from the cornice on an adjoining building by having the party wall corbelled out at least two (2) inches beyond all projections, or by such other fire stop as shall be approved by the Bureau of Building Inspection. This section shall not be construed to prohibit the use of a wooden cornice upon buildings which have shingle roofs, as hereafter in this act provided.

All public buildings shall have stairways as determined by the Chief.

Stores.

Manufactories.

Tower stairways, fireproof.

Section 38. All buildings hereafter erected or altered to be used as a school-house, hospital, asylum, hotel, apartment or tenement house, office building, store, manufactory, or workshop, or place of assembly or resort, shall have such number of good and sufficient stairways, or other means of egress, as shall be determined by the Chief of the Bureau of Building Inspection. Stores in which any of the stories above the second have a clear floor space of four thousand (4000) square feet, and manufactories three or more stories in height, of the floor area per story, of three thousand (3,000) square feet shall have a tower stairway, completely inclosed, on the interior of the building, with brick walls of such other fire-proof materials as shall be accepted by the Bureau of Building Inspection. Should the floor area of any story above the second, in said stores or manufactories, exceed ten thousand (10,000) square feet, the Bureau of Building Inspection may require one or more additional tower stairways.

Openings for doors and windows.

Arches and lintels.

Section 39. Openings for doors and windows in all buildings, except as otherwise provided, shall have good and sufficient arches of stone, brick or terra-cotta, well built and keyed, with good and sufficient abutments or lintels of stone, as follows:

Dimension of lintels.

For an opening not more than four (4) feet in width, the lintel shall not be less than seven and one-half (7½) inches in height and three (3) inches in thickness; for an opening of not more than six (6) feet in width, the said lintel shall not be less than ten (10) inches in height and four (4) inches in thickness; for an opening more than six (6) feet and less than eight (8) feet in width, the said lintel shall not be less than twelve (12) inches in height and four (4) inches in thickness; all lintels eight (8) feet and over in width, shall be iron or steel beams or girders. No lintels shall have a bearing of less than four and one-half (4½) inches on the walls, and on the inside of all openings six (6) feet or less in width, in which the lintels shall be less than the thickness of the wall to be supported, there shall be a good and proper size timber lintel, which shall rest at each end not less than four and one-half (4½) inches on the wall, and shall be bevelled on each end, and shall have a double counter or dead arch turned over the same when practicable. Openings over six (6) feet and less than eight (8) feet in width, shall have the inside lintel of iron or steel; plank front frames of a width of five (5) feet or less, to be used in dwelling houses, may be exempted from the provisions of this section for lintels. All exterior window sills shall be of stone or other hard, incombustible materail.

Bearings of lintels.

Lintel of iron or steel.

Exterior window sills shall be of stone.

Iron or steel beams or girders spanning openings between 8 and 12 feet.

When over 12 feet.

Section 40. All iron or steel beams or girders used as lintels to span openings eight (8) feet or over in width and not exceeding twelve (12) feet, upon which a wall rests, when not supported by iron or steel jamb boxes, shall have a bearing of at least eight (8) inches at each end by the thickness of the wall supported. For openings over twelve (12) feet, the bearing shall be at least twelve (12) inches. When

When supported at ends by walls or piers.

the lintels or girders are supported at the ends by brick walls or piers, they shall rest upon cut granite or other stone blocks of equal strength, or cast iron plates of equal strength may be used. If the opening is twelve feet or less, the stone block shall not be less than eight (8) inches thick, and shall be proportionately increased when the opening is more than twelve (12) feet. All blocks or plates used shall be the full size of the bearings. In all cases the bearing shall be sufficient to support the weight placed upon it with safety. All iron or steel beams or girders used in any building shall be throughout not less in width than the thickness of the wall to be supported.

Dimensions of stone block.

Bearings to be sufficient to support weight.

Width of iron beams.

Maximum weights, per superficial foot, floors shall be constructed to bear.

Section 41. All floors shall be constructed to bear a safe weight, per superficial foot, exclusive of the weight of the materials of which they are composed, as follows: Dwellings, tenement houses, apartment houses, hotels, hospitals or asylums, seventy (70) pounds; office buildings, one hundred (100) pounds; places of public assembly, light manufacturing and retail stores, one hundred and twenty (120) pounds; storehouses, warehouses and manufactories, one hundred and fifty (150) pounds; and upwards in proportion to the loads they have to carry. All roofs shall be constructed to bear a safe weight of thirty (30) pounds per superficial foot. The ultimate stress in pounds per square inch, to be applied in proportioning the materials to be used in building to safely carry the load stated above, shall be as follows:

Maximum weight per superficial foot, to be borne by roofs.

Ultimate stresses in pounds per square inch.

	Extreme fibre tension.	Tension.	Compression.	Shear.
Cast iron	15,000		70,000	
Wrought iron		50,000	50,000	30,000
Mild steel		58,000	58,000	35,000
Medium steel		65,000	65,000	40,000

			Compression.		Shear.	
	Extreme fibre tension.	Tension.	Compression.	Allowable perpendicular to grain.	Perpendicular to grain.	Parallel to grain.
Hemlock	3,600	4,000	2,100	250	2,500	250
Spruce	4,400	5,000	3,000	300	3,000	300
Long leaf yellow pine	6,400	7,200	4,500	550	4,500	400

Allowable pressure per square foot.

Allowable pressure per square foot on
Concrete, fifteen tons.
Brickwork in lime mortar, eight tons.
Brickwork in lime and cement mortar, twelve tons.
Brickwork in cement mortar, fifteen tons.
Stonework (rubble) in lime mortar, five tons.
Stonework (rubble) in lime and cement mortar, eight tons.
Stonework (rubble) in cement mortar, ten tons.

Reduction as per formula of Bureau.

Basis of ultimate stresses on timber.

Allowable deflection.

Factors of safety.

Temporary supports.

The above figures in compression shall be reduced for columns, in proportion to length and least diameter, according to formula adopted by the Bureau of Building Inspection. The ultimate stresses as above given for timber, are based on ordinary, straight grained and well-seasoned lumber. The allowable deflection for beams or girders shall not exceed one-thirtieth of an inch per foot of span where the ceiling is to be plastered, or one twenty-fifth of an inch per foot of span, where the ceiling is not to be plastered. The factors of safety shall be as one to four for all beams, girders and other pieces subject to transverse strain, and as one to four for all posts, columns and other vertical supports, when of wrought iron or rolled steel, and as one to six for other material subject to a compressive strain; and as one to four for tie rods, tie beams and other pieces subject to a tensile strain. Every temporary support used during the erection or alteration of any building shall be of sufficient strength to carry safely the load to be placed thereon.

Weights that floors will sustain shall be estimated.

And posted in a conspicuous place.

Strength of materials, how to be ascertained.

Section 42. In all stores, warehouses and factories, hereafter to be erected or altered, and all warehouses, storehouses, factories, workshops and stores, where heavy materials are kept or stored or machinery introduced, the weight that each floor will safely sustain upon each superficial foot shall be estimated by an architect or civil engineer. The weight that each floor will safely sustain, together with the date of examination and the name of the architect or civil engineer, shall be posted by the owner in a conspicuous place on each floor. The strength of the materials shall be ascertained by computation, by the rules of standard authors on the strength of materials using the fibre stresses hereinbefore specified, and for other materials only

such numbers as have been reduced from actual experiments on materials of like kinds with that proposed to be used. The data and method of computation must be submitted to the Bureau of Building Inspection for verification, before posting.

Data and method of computation shall be submitted to Bureau.

Section 43. Rolled iron or steel beams and girders used to support floors or walls of buildings shall be so proportioned that the loads which may come upon them shall not produce strains in tension or compression of more than the allowable stresses hereinbefore specified. No material shall be used in any part of the construction of less thickness than one-quarter (¼) of an inch, except for filling or lining vacant places. No allowance shall be made for the web in calculating the flange section of plate girders. All connections shall be arranged for end connection angles, and all beams, where practicable, must be connected to the girders supporting them with the standard connections, as used by Pencoyd, Carnegie, Phoenix, or other standard mills, and published in their hand books. Beams or girders whose length is more than twenty-five times their width must be supported laterally by bracing, independent of the load coming upon them. Webs of girders, whose unsupported depth is more than sixty times their thickness, must have stiffeners riveted on both sides of the web at points generally not farther apart than one and one-half times the full depth of the web-plate, the stiffeners to be milled to fit tightly into the flange angles of the girder. At the points of local and concentrated loads and at bearing points, stiffeners shall be placed up against the flanges, and shall be proportioned as posts to transfer the loads at those points. All riveted work to be punched accurately with holes one-sixteenth (1/16) inch larger than the rivet, and when the pieces forming one

Iron or steel beams or girders used to support floors or walls.

Standard connections.

Supported laterally

Webs of girders to have stiffeners.

At points of local and concentrated load.

Riveted work.

built member are put together the holes must be truly opposite. No drifting to distort the metal will be allowed. All holes for field rivets shall be accurately drilled to an iron templet wherever possible; all rivets shall be machine driven and when so driven must completely fill the holes. All rivets shall be proportioned so that the shearing strain per square inch of section shall not exceed eleven thousand (11,000) pounds for steel, and nine thousand (9,000) pounds for iron, and the pressure upon the bearing surface of the projected semi-intrados (diameter x thickness) of the rivet shall not exceed twenty-two thousand (22,000) pounds per square inch for steel, and eighteen thousand (18,000) pounds for iron. For field riveting the number thus found shall be increased twenty-five per centum. The pitch of rivets in direction of the strain shall not exceed six (6) inches. All conections in structural iron or steel work, so far as possible, shall be made with soft steel rivets. Tight fitting bolts may be used in reamed holes where it is impossible to drive the rivet. Columns of wrought iron or steel, supporting walls and floors of buildings, shall be so proportioned that the vertical loads which may come upon them, including the bending strain due to wind pressure, shall not produce strains in tension and compression of more than thirty (30) per centum additional to the allowable stresses hereinbefore specified. The vertical stresses on columns from live load shall not be reduced more than that given by formula adopted by the Bureau of Building Inspection. Abutting surfaces to be truly planed to even bearings throughout, and to be spliced so as to hold parts in proper position. Splices also to be proportioned for the bending in the columns due to side pressure, so that the strains on the bolts and rivets shall

No drifting allowed.

Rivets to be machine driven.

Shearing strain.

Field riveting.

Pitch of rivets.

Connections.

Vertical loads, including bending strain.

Vertical stresses.

Abutting surfaces.

Splices.

not produce strains of more than the allowable stresses hereinbefore mentioned. No column shall be greater in length than forty-five times its least width or one hundred and forty times its least radius of gyration. Every column shall rest upon a base plate properly secured to columns, and shall be truly and squarely planed, so as to evenly distribute the load over the footings. As far as possible, columns shall be so designed as to have all parts of the column accessible after erection, for the purpose of cleaning and painting. In all buildings allowances shall be made for wind pressure which shall not be figured at less than thirty (30) pounds per square foot of elevation, where erected in open spaces or on wharves. In high buildings, erected in built-up districts, the wind pressure shall not be figured for less than twenty-five (25) pounds at tenth story, two and one-half (2½) pounds less on each succeeding lower story, and two and one-half (2½) pounds additional on each succeeding upper story to a maximum of thirty-five (35) pounds at fourteenth story and above. Wind bracing may be provided by making the connection joint between girders and columns sufficient for the vertical load as well as the bending due to side pressure; or brackets may be placed at this joint, proportioned for the side pressure; or diagonal bracing may be placed between columns, proportioned to transfer the shear of the side pressure to the footings. Where buildings are narrow and tall, so that the overturning due to wind is more than the down pressure of the unloaded building, the base of column must be anchored down to a sufficient foundation to counteract this upward strain. Cast iron columns shall be proportioned so that the loads coming upon them shall not produce

Length of columns.

Base of columns.

Wind pressure.

Wind bracing.

Base of column must be anchored.

Cast iron columns

strains greater than the allowable stresses hereinbefore mentioned; cast columns to have caps and bases truly square so as to give even bearing, and shall be bolted to each succeeding column; the lugs, caps and bases to be made of sufficient size to transmit the strains coming upon them. They shall be of tough gray iron, free from all cracks, blow-holes, etc., and concentric to outer circumference. In cast iron columns or inlets the least thickness allowable shall be three-fourths (3/4) of an inch, and there shall be no variation in thickness, due to shifting of core, of more than twenty per centum. Cast iron columns shall not be of greater length than twenty times their least diameter. The Inspector may require columns drilled for inspection. All footings under columns shall be proportioned for the weight coming upon them, so as not to produce any greater pressure upon the earth beneath them, as hereinbefore mentioned. All foundations under columns shall be concentrically loaded, and where necessary shall have a slip joint connection with other masonry. Where beams are placed under columns to distribute the loads, they shall be proportioned as girders carrying uniform load, within the limits of the above mentioned allowable stresses. All structural steel and iron work to be thoroughly cleaned of rust and dirt and covered with two coats of an approved paint mixed in linseed oil; all parts of the structure, as far as possible, to be so designed as to be accessible for painting after erection. No curtain wall in buildings of skeleton construction shall be less than thirteen (13) inches in thickness for an average story height of twelve feet, and shall be so proportioned that a wind pressure of thirty pounds per square foot at any panel would not cause the wall to fall.

Of tough gray iron.

Least thickness allowable.

Greatest length.

Inspector may require columns to be drilled for inspection.

Foundations under columns.

Beams under columns.

Structural iron work to be cleaned and painted.

Curtain wall, thickness and construction of.

Section 44. Where the inclosing or division walls of a building are wholly or in part supported on iron or steel beams, girders and columns, such beams, girders and columns shall be protected against the external changes of the atmosphere and against fire by a covering of brick, terra-cotta, fire clay, tile, or other approved fire proofing, completely enveloping said structural members of iron or steel. Said fireproofing around outside columns and beams, if of brick, shall not be less than eight (8) inches; if of hollow tile, shall not be less than six (6) inches thick; and there shall be at least two sets of air spaces between the iron and steel members and the outside of the hollow tile covering. In all cases the brick or hollow tile shall be bedded in cement mortar close up to the iron or steel members, and all joints shall be made full and solid. No building shall be deemed a fire-proof building unless, in addition to the above required covering of the iron or steel members, all the interior columns, beams and girders be enveloped in such fire resisting materials as shall be approved by the Bureau of Building Inspection. The filling between the individual floor beams and girders shall be one of the fire-proof systems in use, as approved by the Bureau of Building Inspection, and must in every case have stood the test of three times the load for which the floor is designed, without sign of cracking. No wood or other inflammable material shall be used in any part of any such building except the doors and windows and their frames, the trims, the casings, the interior finish, when filled at the back with fire-proof materials; and the floor boards and sleepers directly under the spaces between and under the sleepers must be filled up and levelled off at the top of said sleep-

Beams, girders, etc., to be protected by fire-proofing.

Thickness of

How bedded.

What shall be deemed a fire-proof building.

The filling.

Test of.

When wood and other inflammable materials are used.

ers with concrete or other incombustible material.

Wooden shed allowed when building is being erected.

Section 45. Whenever the owner of any lot of ground is desirous of improving the same by the erection of a new building or buildings thereon, the Bureau of Building Inspection may permit the owner of such lot or the contractor for the erection of such building or buildings to put up a wooden shed on the same or neighboring lot for the use of the mechanics employed on said building or buildings while preparing their work; Provided, however, That such permission shall not extend to a longer time than until the building or buildings proposed to be erected shall be entirely finished, at which time the owner or contractor shall take down and remove the said shed.

Removal of shed.

Frame bath room projecting from upper story.

Section 46. No frame bath-room projecting from the upper story of any dwelling house shall be erected within five feet of any similar construction composed wholly or partly of wood, unless the end of said bath-room facing such structure shall be covered with some fire-proof material, and in no case shall the distance dividing such structures be less than three feet, unless the ends shall have division walls of masonry not less than nine inches thick, built from the foundations of the buildings and carried up above the roof, as hereinbefore provided for party walls. It shall not be lawful to build a frame bath-room other than a projecting bath-room as provided for in this section, and no such bath-room shall be greater in area than sixty superficial feet. It shall not be lawful to build such bath-room unless the plumbing fixtures for bath purposes be placed therein.

Fixtures shall be placed therein.

Section 47. It shall only be lawful to erect frame sheds to be attached to dwell-

ings as follows: The said shed shall not exceed twelve feet in height nor have any floor or loft between the ground floor and the roof, and must not connect with a frame bath-room projecting from an upper story; said sheds shall not be erected within five feet of any similar construction composed wholly or in part of wood, unless the side of said shed facing such structure shall be covered with fire-proof material, and in no case shall the distance dividing such structures be less than three feet, unless the ends shall have division walls of masonry not less than nine inches thick built from the foundations of the building and carried up above the roof, as hereinbefore provided for party walls, or such other fire-proof materials as shall be approved by the Bureau of Building Inspection. The said shed may be open or inclosed, but in no case shall it be lathed or plastered or lined with wood so as to constitute a room to be occupied as a habitation. The roof of said shed must be covered with metal or other fire-proof material. No such shed shall extend to a greater distance than ten feet in a direct line from the rear wall to which it is attached. Councils may by general ordinance permit and regulate the erection of frame sheds on wharves, or elevators for the storage of grain, coal, lumber, and bay windows of incombustible material, but their mode of construction and location shall be subject to the approval of the Bureau of Building Inspection. All permits granted for the erection of frame sheds may be revoked, and the shed shall be removed within thirty days after notice from the Director of Public Safety.

Frame sheds attached to buildings, how constructed.

Not to be lathed or plastered.

Roof to be fire-proof.

Powers of Councils.

Permits may be revoked.

Section 48. No area shall extend more than one-fourth of the width of the pavement nor in any case more than three feet, measuring from the inside face of the

Areas, extent and construction of.

area wall to the building line, and when areas are constructed on narrow streets the Inspector is to designate the distance from the building line, and every area shall be covered with a safe and substantial cover, the said cover in no case to extend above the grade of the sidewalk. All area and vault walls shall be constructed of brick or stone, and laid in cement mortar; the said walls shall be of sufficient thickness to resist lateral pressure.

Area and vault walls.

Theatres and all buildings for public entertainment.

Section 49. Every building hereafter erected or altered to be used as a theatre, opera house, or other building intended for theatrical or operatic purposes, or for public entertainments of any kind, where stage scenery and apparatus are employed, shall be built to comply with the requirements of this section; but all theatres or places of amusement now existing may be altered, providing such alteration does not amount to a virtual reconstruction thereof, so as to make it a new building. No building, which at the time of the passage of this act is not in actual use for theatrical or operatic purposes, and no building hereafter erected not in conformity with the requirements of this section, shall be used for theatrical or operatic purposes, or for public entertainments of any kind, where stage scenery and apparatus are employed, until the same shall have been made to conform to the requirements of this section; and no building hereinbefore described shall be opened to the public for theatrical or operatic purposes, or for public entertainments of any kind where stage scenery or apparatus are employed, until the Bureau of Building Inspection, and the Bureau of Fire, respectively, shall have approved the same in writing as conforming to the requirements of this section; and the mayors of the said cities shall refuse to issue any license for

Must comply with the provisions of this section.

Mayor shall refuse to issue license.

any such building and shall close the same and prevent its opening until a certificate in writing of such approval shall have been given by the Bureau of Building Inspection and the Bureau of Fire, respectively. Every such building shall have at least one front on the street, which front shall be as wide as the widest part of the auditorium or assembly hall, and in such front there shall be suitable means of entrance and exit for the audience, unless there shall also be a way or passage leading directly from the auditorium to another street, in which case the means of entrance and exit by such way or passage shall be taken into consideration to such extent as they shall furnish entrances and exits; and, if they shall be of sufficient width to meet the requirements of this act, there need be no means of entrance or exit in front, saving by the side courts hereafter stipulated for. Any building located on a street, having a width thereon as wide as the widest part of the auditorium or assembly hall, shall be considered as having a front on said street, within the meaning of this act, if, in addition thereto there shall be a way or passage leading from said theatre to another street, which way or passage shall be of a width not less than one-third of the width of the widest part of said auditorium or assembly hall. In addition to the aforesaid entrances and exits on the street, there shall be reserved for service, in case of an emergency, an open court or space on the side not bordering on the street, where said building is located on a corner lot, and on both sides of said building, where there is but one frontage on the street. The width of such open court or courts shall be not less than seven feet, where the seating capacity is not over one thousand people; above one thousand and not more than eighteen hun-

Front construction of.

Passageway.

Fronts.

Open Court.

Width of.

dred people, eight feet in width; and above eighteen hundred people, ten feet in width.

Construction and extent of.

Said open court or courts, *if there be not, in addition to the front as aforesaid on one street, a way or passage of the width aforesaid leading into another street,* shall begin on a line with or near the proscenium wall, and shall extend the length of the auditorium proper to or near the wall separating the same from the entrance, lobby or vestibule and the said open court, or a separate and distinct corridor from each open court shall continue to the street through such superstructure as may be built on the street side of the auditorium, with continuous walls of brick or fire-proof materials, on each side of the entire length of said corridor or corridors, and the ceiling and floors shall be fire-proof. *If there be, in addition to the front on a street, a way or passage of the width aforesaid leading into another street, then it will be sufficient if said open court or courts shall extend along the auditorium on each side thereof to said front, on said street, on which the theatre shall be located.* Said corridor or corridors shall not be reduced in width except by the thickness of the outer walls, and there shall be no projection in the same; the outer openings to

Doors or gates

be provided with doors or gates opening toward the street. During the performance the doors or gates in the corridors shall be kept open by proper fastenings; at other times they may be closed and fastened by movable bolts or locks. The said open courts and corridors shall not be used for storage purposes, or for any purpose whatsoever, except for exit and entrance from and to the auditorium and stage, and must be kept free and clear during performances. The level of said corridors at the front entrance to the building shall not be greater than one step

Levels of corridors.

above the level of the sidewalk where they begin at the street entrance, and the entrance of the main front of the building shall not be on a higher level from the sidewalk than four steps, unless approved by the Bureau of Building Inspection. To overcome any difference of level existing between exits from the parquet into courts and the level of the said corridors, gradients shall be employed of not over one foot in ten feet, with no perpendicular rise

Exits from auditorium.

From the auditorium, opening into th said open courts or on the side street, there shall not be less than two exits on each side in each tier from and including the parquet, and each and every gallery.

Construction of.

Each exit shall be at least five feet in width in the clear and provided with doors of iron or wood; if of wood, the doors shall be constructed as hereinbefore in this bill described.

Doors shall open outwardly.

All of said doors shall open outwardly and must be fastened with movable bolts, the bolts to be kept drawn during performances.

Balconies.

There shall be balconies not less than four feet in width in the said open court or courts, at each level or tier above the parquet, on each side of the auditorium, of sufficient length to embrace the two exits; and from said balconies there shall be staircases extending to the ground level, with a rise of not over eight and one-half inches to a step, and not less than nine inches tread, exclusive of the nosing.

Staircases.

The staircase from the upper balcony to the next below shall not be less than thirty inches in width in the clear, and from the first balcony to the ground three feet in width in the clear where the seating capacity of the auditorium is for one thousand people or less, three feet six inches in the clear, where above one thousand and not more than eighteen hundred people, and four feet in the clear when above eighteen hundred people and not more than

twenty-five hundred people, and not less than four feet six inches in the clear when above twenty-five hundred people. All the before mentioned balconies and staircases shall be constructed of iron throughout, including the floors, and of ample strength to sustain the load to be carried by them, and they shall be covered with a metal hood or awning, to be constructed as shall be directed by the Inspector of Buildings. If the said balconies be carried to and connect with an inclosed tower stairway, having its exit directly to the street, the open courts or corridors hereinbefore described may have deducted from their width the width of the staircases herein called for. Where one side of the building borders on a street, there shall be balconies and staircases of like capacity and kind as before mentioned, carried to the ground. When located on a corner lot, that portion of the premises bordering on the side street and not required for the uses of the theatre may, if such portion be not more than twenty feet in width, be used for offices, stores or apartments, provided the walls separating this portion of the theatre proper are carried up solidly to and through the roof, and that a fire-proof exit is provided from the theatre on each tier equal to the combined widths of exits opening on opposite sides in each tier communicating with balconies and staircases leading to the street, in a manner provided elsewhere in this section. Said exit passages shall be entirely cut off by brick walls from said offices, stores or apartments, and the floors and ceilings in each tier shall be fire-proof. Nothing herein contained shall prevent a roof garden, art gallery or rooms for a similar purpose being placed over a theatre or public building, provided the floor of the same forming the roof over such theatre or building shall be con-

Construction of staircases.

Roof garden, art gallery, etc.

structed of iron or steel and fire-proof materials, and that said floor shall have no covering boards or sleepers of wood, but be of tile or cement. Every roof over said garden or rooms shall have all supports and rafters of iron or steel, and be covered with glass or fire-proof materials, or both; but no such roof garden, art gallery or room for any public purpose shall be placed over or above that portion of any theatre or other building which is used as a stage. No workshop, storage or general property room shall be allowed above the auditorium or stage or under the same, or in any of the fly galleries. All of said rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a brick wall, and the openings leading into said portions shall have fire-proof doors on each side of the openings, hung to iron eyes built into the wall. No portion of any building hereafter erected or altered, used or intended to be used, for theatrical or other purposes as in this section specified, shall be used or occupied as a hotel, boarding or lodging house, factory, workshop or manufactory, or for storage purposes, except as may be hereafter specifically provided for. Said restriction relates not only to that portion of the building which contains the auditorium and the stage, but applies also to the entire structure in connection therewith. No store or room contained in the building, or the offices, stores or apartments adjoining, as aforesaid, shall be let or used for carrying on any business dealings in articles designated as specifically hazardous in the classification in the Board of Fire Underwriters, or for manufacturing purposes. No lodging accommodation shall be allowed in any part of the building communicating with the auditorium. Interior

Workshop, storage rooms, etc.

No specially hazardous business allowed.

walls built of fire-proof materials shall separate the auditorium from the entrance vestibule and from any room or rooms of the same, also from any lobbies, corridors, refreshment or other rooms. All staircases for the use of the audience shall be inclosed with walls of brick or fire-proof materials, approved by the Bureau of Building Inspection, in the stories through which they pass, and the openings to said staircases from each tier shall be the full width of said staircase. A fire wall of brick shall separate the auditorium from the stage, and the same shall extend at least four feet above the stage roof, or the auditorium roof, if the latter be higher, and shall be coped. Above the proscenium openings there shall be an iron girder covered with fire-proof materials to protect it from the heat. There shall also be constructed a relieving arch over the same, the intervening space being filled in with hard-burnt brick of the full thickness of the proscenium wall. Should there be constructed an orchestra over the stage above the proscenium opening, the said orchestra shall be placed on the auditorium side of the proscenium fire wall, and shall be entered only from the auditorium side of said wall. The moulded frame around the proscenium opening shall be formed entirely of fire-proof materials; if metal be used, the metal shall be filled in solid with non-combustible material, and securely anchored to the wall with iron. The proscenium opening shall be provided with fire-proof metal curtain or a curtain of asbestos or similar fire-proof material, approved by the Bureau of Building Inspection sliding at each end within iron grooves securely fastened to the brick wall and extending into such grooves not less than six inches on each side. Said fire-proof curtain shall be raised at the commencement

Staircase for audience.

Proscenium openings.

Orchestra over stage.

Fireproof curtains.

of each performance and lowered at the close of said performance, and be operated by approved machinery for that purpose. The proscenium curtains shall be placed at least three feet distant from the foot-lights at the nearest point. There shall be no opening through the proscenium wall, except the curtain opening, and not more than two others, which shall be located at or below the level of the stage. These latter openings shall not exceed twenty-one superficial feet each, which shall have doors of iron or wood in each face of the wall; if of wood, the door shall be lined with tin and securely hung to rabbeted iron frames or rabbets in the brick wall. They shall be hung so as to be opened from either side at all times. Direct access to these doors shall be provided on both sides, and the same shall always be kept free from any incumbrance. Iron ladders or stairs securely fixed to the wall, on the stage side, shall be provided, to overcome any difference of level existing between the floor or galleries on the stage side of the fire wall and those on the other side of the auditorium. There shall be provided over the stage, metal skylights of an area, or a combined area, of at least one-eighth of the area of the said stage, fitted up with sliding sash and glazed with double thick sheet glass, not exceeding one-eighth of an inch thick; and each pane thereof measuring not less than three hundred square inches, and the whole of which skylights shall be constructed so as to open instantly on the cutting or burning of a hempen cord, which shall be arranged to hold said skylights closed, or some other equally simple approved device for opening them may be provided. There shall be provided immediately under the glass of said skylight a wire netting, or the skylight may be glazed with wire-glass. All that

Access to doors.

Iron ladders or stairs.

Skylights.

Stage, construction of. portion of the stage not comprised in the working of scenery, traps and other mechanical apparatus for the presentation of a scene, usually equal to the width of the proscenium opening, shall be built of iron or steel beams, filled in between with fire-proof materials, and all girders for the support of said beams shall be wrought iron or rolled steel. The fly galleries entire including pin-rails, shall be constructed of iron or steel, and the floor of said galleries shall be composed of iron or steel beams, filled with fire-proof materials, and no wood boards or sleepers, shall be used as a covering over beams, but the said floor shall be entirely fire-proof. The rigging loft shall be fire-proof, except the floor

Scenery. covering the same. All stage scenery, curtains and decorations made of combustible material, and all wood-work on or about the stage shall be saturated with some non-combustible material, or otherwise rendered safe against fire to the satisfaction of the Bureau of Fire; and all such stage scenery shall be raised and lowered without the use of counter weights, unless such counter weights are so situated that they operate against the wall and do not

Roof. overhang the stage. The roof over the auditorium, and the entire main floor of the auditorium and vestibule, also the entire floor of the second story of the front superstructure over the entrance, lobby and corridors, and all galleries in the auditorium, shall be constructed of iron or steel and fire-proof materials, not excluding the use of wooden floor boards and necessary sleepers to fasten the same to, but such sleepers shall not mean timbers of support. The

Gallery fronts front of each gallery shall be formed of fire-proof materials, excepting the capping, which may be made of wood. The ceiling under each gallery shall be entirely formed of fire-proof materials. The ceiling of the

auditorium shall be formed of fire-proof materials. All lathing wherever used shall be of metal. The partition in that portion of the building which contains the auditorium, the entrance, vestibule and every room and passage devoted to the use of the audience, shall be constructed of fire-proof materials, including the furring of outside or other wall. None of the walls or ceilings shall be covered with wood sheathing, canvas or any other combustible material, but this shall not exclude the use of wood wainscoting to a height not to exceed six feet, which shall be filled in solid between the wainscoting and the wall with fire-proof materials. The wall separating the actors' dressing rooms from the stage, and the partitions of every passageway from the same to the stage, and all other partitions on or about the stage, shall be constructed of fire-proof material, approved by the Bureau of Building Inspection. All doors in any of said partitions shall be of iron or of wood, constructed as hereinbefore described. All the shelving and cupboards in each and every dressing-room, property-room or other storage room shall be constructed of metal, slate or some fire-proof material. Dressing-rooms may be placed in the fly galleries: Provided, That proper exits are secured therefrom to the fire-escapes in the open courts, and that the partitions and other matters pertaining to dressing rooms shall conform to the requirements herein contained, but the stairs leading to the same shall be fire-proof. All seats in the auditorium, excepting those contained in the boxes, shall be firmly secured to the floor, and no seat in the auditorium shall have more than six seats intervening between it and an aisle on either side, and no stool or seats shall be placed in any aisle. All platforms in galleries formed to receive the seats

Lathing.

Partition.

Coverings of walls and ceilings.

Separating walls.

Doors.

Proviso.

Seats.

Platforms.

shall not be more than twenty-one inches in height of riser, nor less than thirty
Aisles. inches in width of platform. All aisles on the respective floors in the auditorium having seats on both sides of same shall not be less than three feet wide where they begin, and shall be increased in width towards the exits in the ratio of one and one-half inch to five running feet. Aisles having seats on one side only shall not be less than two feet wide at their beginning and increased in width the same as aisles
Aggregate capacity. having seats on both sides. The aggregate capacity of the foyers, lobbies, corridors, passages and rooms for the use of the audience, not including aisle space between seats, shall on each floor gallery be sufficient to contain the entire number to be accommodated on said floor or gallery, in the ratio of one hundred and fifty superficial feet of floor room for every one hundred persons. Gradients or inclined planes shall be employed instead of steps, where possible, to overcome slight difference of level in or between aisles, corridors and passages. Every theatre accommodating three hundred persons shall have at
Exits. least two exits. When accommodating five hundred persons, at least three exits shall be provided; these exits not referring to or including the exits to the open court
Doorways. at the sides of the theatre. Doorways of exit or entrance for the use of the public shall not be less than five feet in width, and for every additional one hundred persons, or portion thereof, to be accommodated in excess of five hundred, an aggregate of twenty inches additional exit width
Location of. must be allowed. *These doorways of exit and of entrance may be in the said front altogether, or in the case of a theatre having also an exit and entrance directly to and from another street, through a way or passage covered or otherwise, the width of one*

third of that of the widest part of the auditorium or assembly hall, some of the said doorways may be made therein to such extent as said entrance or passage will accommodate the same. All doors of exit or entrance shall open outwardly, and be hung to swing in such manner as not to become an obstruction in a passage or corridor, and no such doors shall be closed and locked during any representation or when the building is open to the public. Distinct and separate places of exit and entrance shall be provided for each gallery above the first. A common place of exit and entrance may serve for the main floor of the auditorium and the first gallery, provided its capacity be equal to the aggregate capacity of the outlets from the main floor and said gallery. No passage leading to any stairway, communicating with any entrance or exit, shall be less than four feet in width in any part thereof. All stairs within the building shall be constructed of fire-proof material throughout. Stairways serving for the exit of fifty people must, if straight, be at least four feet wide between railing or between walls, and if curved or winding, five feet wide, and for every additional fifty people to be accommodated six inches must be added to their width. In no case shall the risers of any stairs exceed seven and one-half inches in height, nor shall the treads, exclusive of the nosings, be less than ten and one-half inches wide in straight stairs. In circular or winding stairs, the width of the treads at the narrowest end shall not be less than seven inches. Where the seating capicity is for more than one thousand peole, there shall be at least two independent staircases, with direct exterior outlets provided for each gallery in the auditorium, where there are not more than two galleries, and the same

Passages leading to stairways.

Stairways.

Risers and treads.

Independent staircases.

shall be located on opposite sides of said gallery. Where there are more than two galleries, one or more additional staircases shall be provided, the outlets from which shall communicate directly with the principal exit or other exterior outlets. All said staircases shall be of width proportioned to the seating capacity, as elsewhere herein described. Where the seating capacity is for one thousand people or less, two direct lines of staircases only shall be required, located on opposite sides of the galleries, and in both cases shall extend from the sidewalk level to the upper gallery, with outlets for each gallery to each of said staircases. At least two independent staircases, with direct exterior outlets, shall also be provided for the service of the stage and shall be located on the opposite side of the same. All inside stairways leading to the upper galleries of the auditorium shall be inclosed on both sides with walls of fire-proof materials. Stairs leading to the first or lower galleries may be left open on one side, in which case they must be constructed as herein provided for similar stairs leading from the entrance hall to the main floor of the auditorium; but in no case shall stairs leading to any gallery be left open on both sides. When straight stairs return directly on themselves, a landing of the full width of both flights, without any steps, shall be provided. Stairs turning at an angle shall have a proper landing, without winders, introduced at said turn. In stairs when two side flights connect with one main flight no winders shall be introduced, and the width of the main flight shall be at least equal to the aggregate width of the side flights. Circular or winding stairs shall have proper landings introduced at convenient distances. All inclosed staircases shall have on both sides strong hand-

Inside stairways.

Landings.

rails firmly secured in the wall, about three inches therefrom, and about three feet above the stairs, but said handrail shall not run on level platforms and landings where the same is more in length than the width of the stairs. All staircases six feet and over in width shall be provided with a centre handrail of hard wood or metal, not less than two inches in diameter, placed at a height of about three feet above the centre of the treads, and supported on wrought iron or brass standards of sufficient strength, placed not farther than four feet apart, and securely bolted to the treads or risers of stairs, or both, and at the head of each flight of stairs, on each landing, the post or standard shall be at least six feet in height, to which the rail shall be secured. Every steam boiler which may be required for heating or other purposes, shall be located outside the building, and the space alloted to the same shall be inclosed by walls of masonry on all sides, and the ceiling of such space shall be constructed of fire-proof material. All doorways in said wall shall have iron doors. No floor register for heating shall be permitted. No coil or radiator shall be placed in any aisle or passageway used as an exit where it forms an obstruction, but all said coils and radiators shall be placed in recesses formed in the wall or partition to receive the same. All supply, return or exhaust pipes shall be properly encased and protected where passing through floors or near woodwork. Standpipes of two and one-half inches in diameter, shall be provided, with hose attachments, on every floor and gallery as follows, namely: One on each side of the auditorium in each tier, also one on each side of the stage in each tier, and at least one in the property room, and one in the carpenter shop, if the same be contiguous to the building.

Handrails

Steam boiler

Floor registers forbidden

Standpipes.

All such standpipes shall be kept clear from obstruction. Said standpipes shall be separate and distinct, receiving their supply of water from the steam pump and shall be fitted with the regulation couplings of the fire department, and shall be kept constantly filled with water by means of an automatic steam pump or pumps of sufficient capacity to supply all the lines of hose when operated simultaneously, and the said pump or pumps shall be supplied from the street main, and be ready for immediate use at all times during a performance in said building. A separate and distinct system of automatic sprinklers, with fusible plugs, approved by the Bureau of Fire, supplied with water from a tank located on the roof of the stage, and not connected in any manner with the standpipe, shall be placed up and around the proscenium opening and on the ceiling or roof over the stage, at such intervals as will protect every square foot of stage surface when said sprinklers are in operation. Automatic sprinklers shall also be placed wherever practicable under the stage and in the carpenter's shop, paint room, store rooms and property rooms. A proper and sufficient quantity of two and one-half inch hose, fitted with the regulation couplings of the fire department, and with nozzles attached thereto, and with hose spanners at each outlet, shall always be kept attached to each hose attachment. There shall also be kept in readiness for immediate use on the stage at least four casks full of water and two buckets to each cask. Said casks and buckets shall be painted red. There shall also be provided hand pumps or other portable fire extinguishing apparatus, and at least four axes and two twenty-five-foot hooks two fifteen-foot hooks and two ten-foot hooks, on each tier or floor of the stage. Every

Automatic sprinklers.

Hose.

Hand pumps, etc.

portion of the building devoted to the uses or accommodation of the public, also all outlets leading to the streets and including the open courts and corridors, shall be well and properly lighted during every performance, and the same shall remain lighted until the entire audience has left the premises. At least two or more oil lamps, on each side of the auditorium in each tier, shall be provided on fixed brackets, not less than seven feet above the floor. Said lamps shall be filled with whale or lard oil and shall be kept lighted during each performance, or in place of said lamps candles shall be provided. All gas or electric lights in the halls, corridors, lobby, or any other part of the said buildings used by the audience, except the auditorium must be controlled by a separate shut-off, located in the lobby, and controlled only in that particular place. Gas mains supplying the building shall have independent connections for the auditorium and the stage, and provisions shall be made for shutting off the gas from the outside of the building. When the interior gas lights are not lighted by electricity, other suitable appliances, approved by the Bureau of Fire, shall be provided. All suspended or bracket lights surrounded by glass, in the auditorium or in any part of the building devoted to the public, shall be provided with proper wire netting underneath. No gas or electric light shall be inserted in the walls, woodwork, ceilings, or in any part of the building unless protected with fire-proof materials. All lights in passages and corridors in said building, and wherever deemed necessary by the Bureau of Fire, shall be protected by proper wire network. The footlights in addition to the wire network, shall be protected by strong wire guard, not less than two feet distant from said footlights,

Lighting of building.

Separate shut-off for lights.

Gas mains.

Gas or electric lights.

Footlights.

and the trough containing said footlights shall be formed of and surrounded by fire-proof materials. All stage lights shall be incandescent electric lights, where the current can be obtained, and shall be constructed according to the best known methods and subject to the approval of the Bureau of Fire, and shall be suspended for ten feet by wire rope. All ducts or shafts used for conducting heated air from the main chandelier, or from any other light or lights shall be constructed of metal and made double, with an air space between. All stagelights shall have strong metal wire guards or screens, not less than ten inches in diameter, so constructed that any material in contact therewith shall be out of reach of the flames of said stage lights, and must be soldered to the fixtures in all cases. The standpipes, gas pipes, electric wires, hose, footlights and all apparatus for extinguishing of fire or guarding against same as in this section specified shall be in charge and under the control of the Bureau of Fire, Department of Public Safety; and said Department is hereby directed to see that the arrangements in respect thereto are carried out and enforced, and Councils may, by ordinance, fix a reasonable compensation for such services. A diagram or plan of each tier, gallery, or floor, showing distinctly the exits therefrom, shall be printed in a legible manner on the program of the performance. Every exit shall have over the same, on the inside the word "EXIT," painted in legible letters not less than eight inches high. It shall be within the power of the Mayor, after full report from the Department of Public Safety, to cause the closing up of any theatre, opera house, or public hall, where, in the judgment of the Mayor and the Department of Public Safety, the ingress and egress are not

Stage lights.

Air ducts and shafts.

Diagram on program.

Marking of exits.

reasonably safe for the safe and speedy exit of the audience in case of fire or panic.

License fee for permits.

Payment of same.

Councils may limit the height of buildings, etc.

Section 50. The cities of the first class may, by ordinance, regulate and determine the license fee for the permits as required by the provisions of this act; the said fees to be paid by them into the city treasury in the manner and form as is now provided by law. The said cities may, by general ordinance, limit the height of buildings, and regulate the management and inspection of elevator hoistways and elevator shafts in said cities.

Court may issue mandatory injunction if final decision is not complied with.

Section 51. In the event of failure to obtain a permit, or in any case of final decision, either of an Inspector or of the Bureau, or of an examining commission, such decison or order or certificate, that no permit has been issued, may be at once, if not complied with, certified to any court of common pleas, which shall upon application of such bill of complaint, duly verified by affidavit, either of the Director of Public Safety, the Chief of the Bureau of Building Inspection, or any Inspector thereof, or of any member of an examining commission, issue a mandatory injunction requiring compliance with such order or decision within five days, or within a shorter time if the relief sought is the removal of a dangerous wall, ceiling or structure, and the court sees proper to fix a shorter time; that all petitions, bills or complaints to compel compliance with the provisions of this act shall be given priority over other business or cases by any court of common pleas to which the final decision of an Inspector, the Bureau of Building Inspection, or of an examining commission appointed by the Director of Public Safety, shall be certified. If said injunction is not complied with within the time specified by the court, or if it can-

If injunction is not complied with, court may issue order to sheriff to act.

not for any reason be served, the court shall have power to enforce its order by attachments or to issue an order to any sheriff, commanding him to remove the wall, building or structure condemned by the building inspectors (either as contrary to the provisions of this act or as dangerous), under the supervision of the Bureau of Building Inspection or such Inspector as the Chief of the Bureau shall designate. The sheriff shall have power to employ such competent builders, riggers, and workmen as shall be necessary to carry out the order of the court. He shall certify to the court when he has performed the work required to be done, the cost incurred, and such bill being approved by the court and not being paid by the owner of the premises, the court shall have power by mandamus execution to compel the city to pay such cost. The court shall upon the issuing of such mandamus execution, direct that the prothonotary of the court shall enter the amount thereof as a lien against the premises, whereon the order was enforced and the costs incurred, and the city paying such costs may thereafter proceed in the case, wherein the order was made to collect such bill of costs and the proper docketed costs thereon, by the same process and proceedings and under the same restrictions as are now provided for or required by law for the collection of claims for the removal of nuisances in said cities, and said lien shall not be discharged by any judicial sale until paid, and the said city paying such costs may also, by action of assumpsit, recover the same from the owner or owners of the said premises.

Power of sheriff.

Cost, how collected.

Amount of cost shall be a lien against the premises.

City may collect bill of costs.

Lien not discharged by judicial sale until paid.

Section 52. Any person or persons, firms or corporations, whether owner, builder, contractor, architect or workman, who shall make any alteration, construction or

removal of any building or structure whatsoever, without permit therefor first issued, or in violation of any of the provisions of this act, or who shall have become the owner thereof after the same has been so done, and who shall omit, neglect, or refuse to remove the same, if dangerous or in violation of this act, or to make the same safe and secure, and in all respects conform to the requiremnts of this act within thirty (30) days after notice to that effect, shall forfeit and pay for each offence the sum of seventy-five (75) dollars, and the further sum of fifty (50) dollars for every period of one month for which the said person or persons shall omit, neglect or refuse to remove the same, or make it comply with this act after the expiration of the notice aforesaid; and any person or persons, firm or corporation, who shall contract for the erection or construction of any building or other thing in violation of any of the provisions of this act, shall be subject to a penalty of fifty (50) dollars. All of the aforesaid penalties to be recovered as penalties of equal amount are or shall be recoverable, in the name and for the use of the city, and when collected shall be paid into the treasury thereof.

Penalty for violation of provisions of act.

Actions for recovery of penalties shall be in name of city.

Section 53. All acts or parts of acts inconsistent herewith, or supplied hereby, be and the same are hereby repealed.

Repeal.

Approved—The 5th day of May, A. D. 1899.

WILLIAM A. STONE.

[NOTE:—Section 49, as printed above, is Supplemental Act No 241, approved by Governor Stone the 5th day of June, A. D. 1901, and takes the place of original Section 49 of the Act of May 5th, 1899.]

No. 236.

AN ACT.

To further regulate the construction, maintenace and inspection of buildings and party walls in cities of the first class.

Cities of the first class.

Section 1. Be it enacted, etc., That all buildings hereafter erected or altered, in cities of the first class, shall be classified as follows:

Buildings of the first class.

Buildings of the first class shall include all buildings in which the walls, floors, columns, girders, beams, partitions, and roofs are of stone, brick, terra-cotta, concrete, steel, iron or such other fire-proof material as shall be approved by the Bureau of Building Inspection.

Buildings of the second class.

Buildings of the second class shall include all buildings the walls of which are as hereinbefore specified for buildings of the first class, but in which the floors, columns, beams and girders are of the construction known as "slow-burning construction," in which all columns and girders shall be of wood, and in which no column shall be of less dimensions than sixty-four square inches, and no girder or floor beam less than six inches in its least dimension. The flooring to be of plank not less than two and three-quarters inches thick, when dressed, and the roof of plank not less than one and three-quarters inch thick, when dressed: Provided, That in such buildings, iron or steel may be used for beams, columns or girders, if the same be protected with fire-proofing materials, as hereinafter set forth for buildings of the first class.

Buildings of the third class.

Buildings of the third class shall include all buildings the walls of which are as hereinbefore specified for buildings of the first class, but which in their interior construc-

tion are not in accordance with the requirements as hereinbefore set forth for buildings of the first and second classes, or the floors of which may be of ordinary house or joist construction.

Buildings of the fourth class shall include all buildings other than those of the character specified for first, second and third class construction. Buildings of the fourth class.

Section 2. Any building hereafter erected or altered, to be used as a hospital, asylum, or institution for the care or treatment of persons, the height of which exceeds two stories, and every building hereafter erected or altered, to be used as an apartment-house, tenement-house, flat-house, lodging-house, hotel, school, or police station, the height of which exceeds four stories, shall be a building of the first class; and no building of any kind, except as hereafter provided, shall be erected or raised to a height exceeding sixty-five feet, except the same be a building of the first or second class; and no building shall be erected or raised to a height exceeding eighty-five feet, except the same be a building of the first class; and all buildings of a height exceeding six stories shall be buildings of the first class. Buildings which shall be of the first class. Limits of height.

All buildings of the first class hereafter erected or altered, to be used for warehouse, store or factory purposes, shall be so divided by fire-proof walls or partitions on every floor, except as hereinafter provided, that no space on any floor, not so divided, shall exceed twenty-five thousand square feet; and no existing wall or partition in any such buildings, shall be removed so as to leave a space, not so divided, of more than twenty-five thousand square feet. Such walls or partitions shall extend from the fire-proof construction of the floors to the fire-proof beam filling of Warehouse, store or factory. Fire-proof walls or partitions.

Openings in

the ceilings. The openings or doorways in any such walls or partitions shall not exceed three in number for each floor, for each such wall or partition, and no such opening shall exceed ten feet in height or ten feet in width. Each opening must be provided with two sets of standard fire-doors, separated by the thickness of the wall or partition, said doors to be constructed and hung as provided elsewhere in this act. All of the said openings through partitions of fire-proof material shall have metal frames or studs, securely fastened to floor and ceiling, and such metal studs shall be covered with such fire-resisting materials as shall be approved by the Bureau of Building Inspection. No wood for framing or fastening shall be used for such openings: Provided, however, That the space or spaces of the first or grade floor of any such buildings may exceed twenty-five thousand square feet, when the entire building is under the protection of an approved system of automatic sprinklers, so long as such system shall be kept and maintained in complete working order. If such system shall not be maintained and kept in such order, it shall be the duty of the Bureau of Building Inspection to give written notice to the tenants or owners, served upon the premises, of said fact, and within sixty days thereafter the division by fire-proof walls or partitions, as above provided, shall be made, and thereafter maintained.

Fire-doors.

When protected by automatic sprinklers.

Beams, girders, etc., to be protected by fire-proofing.

No building shall be deemed a building of the first class unless the enclosing or division walls are wholly or in part supported on iron or steel beams, girders and columns; such beams, girders and columns shall be protected against the external changes of the atmosphere and against fire by a covering of brick, terra-cotta, fire-clay, tile or other approved fire-proofing,

completely enveloping said structural members of iron or steel. Said fire-proofing around outside columns and beams, if of brick, shall not be less than eight inches, if of hollow tile, shall not be less than six inches thick, and there shall be at least two sets of air spaces between the iron and steel members and the outside of the hollow tile covering. In all cases the brick or hollow tile shall be bedded in cement mortar close up to the iron or steel members, and all joints shall be made full and solid. No building shall be deemed a fire-proof building unless, in addition to the above required covering of the iron and steel members, all the interior columns, beams and girders be enveloped in such fire-resisting materials as shall be approved by the Bureau of Building Inspection. The filling between the individual floor beams and girders shall be one of the fire-proof systems in use, as approved by the Bureau of Building Inspection, and must in every case have stood the test of three times the load for which the floor is designed, without sign of cracking. No wood or other inflammable material shall be used in any part of any such building except the doors and windows and their frames, the trims, the casings, the interior finish, when filled at the back with fire-proof materials; and the floor boards and sleepers, directly under the spaces between and under the sleepers, must be filled up and leveled off at the top of the said sleepers with concrete or other incombustible material. All interior columns, and the lower flanges of all girders of iron or steel, shall be protected with at least three inches of brick, terra-cotta, concrete, or other fire-resisting materials, as shall be approved by the Bureau of Building Inspection. The web of all girders, and the flanges and web of all

Thickness of.

How bedded.

What shall be deemed a fire-proof building.

The filling.

Test.

Where wood may be used.

Interior columns, etc.

beams, to be protected by not less than two inches of terra-cotta, brick, concrete, or other fire-proof material; but the extreme outer edge of lugs, brackets, and similar supporting metal may project within one inch of the surface of the fire-proofing.

Fire-proofing.

Bases of columns.

Where the bases of iron or steel columns are independent, the said bases shall be either cast-steel, thoroughly annealed, or built-steel bolsters. Built sections of girders or columns, in which all parts are not accessible after erection, shall be filled with concrete, in the proportion of one part of Portland cement to three parts of sand and five parts of stone, to pass a three-fourths of an inch mesh. The maximum span for arches of brick, terra-cotta, concrete, or other patent floors, shall not exceed eight feet; but nothing herein contained shall prohibit the use of reinforced concrete or heterogeneous systems, provided the depth of the floor beams or girders is three-fifths of an inch per foot of span, and that a test for strength, and fire and water resistance, satisfactory to the Bureau of Building Inspection, shall be given for said reinforced or heterogenous system. No arch in any floor system shall have a rise of less than one and one-quarter inch per foot of span.

Portland cement.

Span of arches.

Concrete or heterogeneous system.

Pipes, conduits, etc.

In buildings of the first class, all pipes, conduits, mains, wiring, and conveyances for conducting heat, light or water, shall be encased in separate fire-proof ducts, and shall not be enclosed in the fire-proofing surrounding any column, girder or beam of steel or iron.

Provided, also, That this section shall not apply to one-story buildings, used only for working in non-combustible materials, and that nothing contained in this section shall prevent the erection of grain elevators, church spires, towers for observation purposes, and structures for similar

Grain elevators, spires, towers, etc.

uses, all of which structures shall be constructed in such manner and under such conditions as may be prescribed by the Bureau of Building Inspection.

Floor areas.

Section 3. Buildings of the second class in which any floor area between exterior walls exceeds fifteen thousand square feet, and buildings of the third class in which any floor area between exterior walls exceeds five thousand square feet, shall be so divided by walls of brick, stone, concrete, or such other fire resisting material as shall be approved by the Bureau of Building Inspection, that no space inside such building shall exceed fifteen thousand or five thousand square feet, respectively, as hereinbefore set forth; the said walls to be of the thickness as now required by law, and shall extend through, and at least three feet above the roof. No existing walls in any buildings of the second or third class shall be removed, so as to leave a space inside any building which shall exceed the areas hereinbefore set forth for each class.

Divided by walls of fire-resisting material.

Proviso.

Provided, however, That in buildings of the third class, the floor area may be seventy-five hundred square feet, if the floors and roof be made of plank not less than one and three-quarters inch thick, when dressed.

Openings in division walls

Openings may be made in such division walls, of the size, number and character as provided in Section 2, for buildings of the first class, if protected by standard fire-doors as provided in that section.

Proviso.

Provided further, That this section shall not apply to private dwellings, nor to one-story buildings used only for working in non-combustible materials.

Skeleton wall construction.

In buildings other than buildings of the first class, skeleton wall construction shall not be permitted.

Party walls.

All party walls in buildings of the first, second and third classes, except dwellings and buildings of similar light construction, shall extend through, and at least three feet above the roof.

Stairways.

Warehouse, store or factory.

Elevators, chutes, shafts etc.

Section 4. All stairways hereafter placed in any buildings of the first, second or third classes, used for warehouse, store or factory purposes, and in which any floor area between exterior walls exceeds five thousand square feet, and all elevators, hoistways, hatchways, well-holes, chutes, dumb-waiters and interior light or vent shafts, or shafts of any description, hereafter placed in any building, except such fire-proof buildings as are occupied for office purposes only,

Enclosure walls.

shall be enclosed, between floors and ceilings of each story, in suitable walls of brick, or with a suitable frame-work of iron and burnt clay filling, or of such other fire-proof material and form of construction as may be approved by the Bureau of Building Inspection, except that the enclosure walls, required by this section, in any non-fire-proof buildings, used as warehouses or factories, shall be of brick. All such walls or construction, where the elevator, stairs, hoist, hatchway, chute, dumb-waiter, light or vent shaft, or other shaft, extends to the top floor, shall extend through, and at least three feet above the roof. If the enclosure walls are of brick, any of the above shafts may be in the same enclosure, provided the stairways are constructed of non-combustible material.

Interior openings in walls.

All interior openings in the enclosure walls of elevators, stairways, hoistways, hatchways, chutes and dumb-waiters, shall be provided with fire-proof doors, made solid for their full height, and set in fire-proof

Lights of wire-glass.

frames and fittings. Lights of wire-glass, in metal frames, may be placed in such doors and in the enclosure walls, but no one pane of wire-glass shall exceed in area

two hundred and fifty square inches, between muntins. All exterior openings in the enclosure walls of stairways, elevators, or dumb-waiters, and all openings in the walls of interior light or vent shafts, shall be provided with approved wire-glass windows set in approved metal frames, but no one pane of wire-glass in such windows shall be larger than twenty-four inches by thirty inches between muntins. Automatic closing trap doors, tin-lined on the under side, at each floor, when approved by the Bureau of Building Inspection, may be substituted for the above named enclosure walls for hoistways (without cars), hatchways and chutes. Trap-doors.

The roofs over the enclosed elevators, stairways, hoistways, hatchways, chutes and dumb-waiters shall be made of fire-proof materials, with a sky-light or side-lights above the roof, at least three-quarters the area of the shaft, made of glass set in iron frames. When the shafts do not extend to the ground, the bottom floor of the shaft shall be constructed of fire-proof material. In all buildings of the first, second or third class, in which any floor area between the exterior walls is five thousand square feet or less, the stairways shall be of such number, and protected in such manner, as may be approved by the Bureau of Building Inspection. Roofs over elevators, etc. Bottom floor of shafts.

In any building now existing, in which there is an elevator, dumb-waiter, interior light or vent shaft, hoistway, hatchway, chute, well-hole, or shaft of any description, not enclosed in walls constructed and arranged as required in this act, the openings thereof, through and upon each floor of said building, shall be provided with and protected by a substantial guard or vertical enclosure, and gate or gates, or with such good and sufficient trap-doors, Elevators, shafts, chutes, etc. Guard gates, or trap-doors.

or both, as may be directed and approved by the Bureau of Building Inspection.

To be closed when not in use.

Such guards or enclosure gates shall be kept closed at all times when not in actual use, and trap-doors shall be closed at the close of the business of each day, by the occupant or occupants of the building having the use or control of the same.

Trap-doors construction of.

When in the opinion of the Chief of the Bureau of Building Inspection automatic closing trap-doors are required for any such floor openings, the same shall be tin lined on the under side, and constructed so as to form a substantial floor surface, when closed, and so arranged for elevators as to open and close by the action of the elevator in its passage, ascending or descending.

Proviso.

Provided, however, That in every building now or hereafter used or occupied as a hotel, lodging-house, apartment or tenement-house, store, warehouse or factory, or where a number of persons are employed, or which is used for public assemblage, in which there is any elevator, hoistway, hatchway, well-hole, chute, or dumb-waiter, enclosed in walls constructed of combustible material, the enclosing walls of such elevators, hoistways, hatchways, well-holes, chutes and dumb-waiters, shall either be lined with metal, securely fastened on the inside of the shaft, or such elevators, hoistways, hatchways, well-holes, chutes, and dumb-waiters shall be enclosed in suitable walls, constructed and arranged as required for elevator shafts in this act:

Enclosing walls of hoistways, hatchways, etc.

Metal lining.

Proviso.

Trap-doors may be substituted.

Provided, however, That approved automatic closing trap-doors, tin-lined on the under side, and so constructed as to form a substantial floor surface when closed, and so arranged for elevators as to open and close by the action of the elevator in its passage, either ascending or descending, may be substituted for such metal lining,

when in the opinion of the Chief of the Bureau of Building Inspection such trap-doors will provide the required protection.

In existing buildings, passenger elevators, enclosed in open grille work, may be erected in staircase enclosures, where the entire space occupied by the stairs and elevators is inclosed in brick or stone walls, or walls of such other fire-proof material and form of construction as may be approved by the Bureau of Building Inspection: Provided, That, in warehouses, stores, or factories, all openings in the enclosing walls must be provided with fire-proof doors, or wire-glass in metal frames, as provided elsewhere in this section for elevator and stairway enclosures. Pasenger elevators.

Provided, however, That nothing in this section shall apply to any building not over two stories in height, nor to private dwellings and buildings of similar light construction, stores with private dwelling occupancy entirely above the grade floor, and stables. Proviso.

Section 5. Whenever standard fire-doors or fire-shutters are referred to in this act, they shall be constructed as follows, namely: Not less than two thicknesses of one-inch boards, laid diagonally, and securely fastened together by wrought-iron clinched nails, and covered with I. C. tin-plates, not exceeding fourteen by twenty inches, joints to be locked one-half inch and nailed under seams, and corners to have mitre-fold. (not mitre-joint.) Doors and shutters to overlap sides and top of opening four inches, and to close tight against smooth masonry (not wood trimmed) and sill. Sills to be of non-combustible material, resting on and built into brick or stone wall, and extending under and beyond outer surface of door. Doors and shutters to be hung on wrought-iron Standard fire-doors and fire shutters. Sills.

wall-eyes, or to slide on track of heavy flat-rolled steel. All hardware, such as hinges, hangers, wall-eyes, track-bolts, binders, handles, latches, catches, etc., to be of heavy wrought-iron, built in wall or bolted through wall or door or shutter. All fire-doors and shutters shall be closed at night, and whenever the building is not in actual use; at least one in three shutters, on each floor above the first, being so arranged that it can be opened from both outside and inside.

To be closed at night and when building is not in actual use.

Section 6. In all buildings hereafter erected or altered to be used for ware-house, store, or factory purposes, the walls shall not be furred with wood; nor shall any partition, extending from floor to ceiling, be constructed with wooden studs. In non-fire-proof buildings, to be used for ware-house, store or factory purposes, such partitions shall be constructed of some non-combustible material to be approved by the Bureau of Building Inspection, or of plank not less than three inches thick, with tongues, and dressed on all sides. If such walls or partitions are to be plastered, the plaster shall be applied directly to the masonry or partition, or over metal lath, without air spaces behind it.

Walls not to be furred with wood.

Partitions.

Plastering.

In all buildings hereafter erected or altered to be used for ware-house, store or factory purposes, the ceilings shall not be furred with wood, nor shall any wooden or combustible material be applied to form a ceiling. If plaster is applied it shall be applied over metal lath.

Ceilings.

Section 7. All buildings of the first, second and third classes, hereafter erected or altered to be used as school-houses, tenement houses, apartment houses, flat-houses, stores, offices, manufactories, workshops, mills or places of assembly or re-

Tower fire escapes.

sort, shall have, in addition to the main stairs or other means of egress, a tower fire-escape, or escapes, as set forth in the following schedule:

Schedule.

BUILDINGS OF THE FIRST CLASS.

ONE TOWER FIRE-ESCAPE,		TWO TOWER FIRE-ESCAPES.
Number of stories in height.	Maximum area per floor in square feet.	Area per floor in square feet.
3 or 4,	20,000	Over 20,000 to 25,000
5,	15,000	Over 15,000 to 25,000
6,	12,000	Over 12,000 to 25,000
7,	10,000	Over 10,000 to 22,000
8,	9,000	Over 9,000 to 20,000
9,	8,000	Over 8,000 to 18,000
10,	7,500	Over 7,500 to 17,000
11,	7,000	Over 7,000 to 16,000
12,	6,500	Over 6,500 to 15,000

BUILDINGS OF THE SECOND AND THIRD CLASSES.

ONE TOWER FIRE-ESCAPE.		TWO TOWER FIRE-ESCAPES.
Number of stories in height.	Maximum area per floor in square feet.	Area per floor in square feet.
3,	10,000	Over 10,000 to 15,000
4,	6,000	Over 6,000 to 12,000
5,	4,500	Over 4,500 to 10,000
6,	3,500	Over 3,500 to 8,000

If the total floor space above the second floor exceeds the number of square feet as set forth in the above schedule, there may be required, in addition to the above mentioned number of fire-escapes, as many additional tower fire-escapes as the Chief of the Bureau of Building Inspection may determine.

Additional tower fire escapes.

The location and construction of all stairways and tower fire-escapes shall be determined and approved by the Chief of the Bureau of Building Inspection.

Location and construction of.

Provided, That this section does not apply to office buildings of the first class, nor to buildings less than three stories high, and buildings of a greater number of stories in height than two, in which the stories

Proviso.

Proviso.

above the second story are not occupied by persons: Provided, That in store buildings, in which the tower fire-escapes in the first story would interfere with the bulk windows, the said tower may stop at the second floor level, and that an exterior, continuous balcony be provided at the second floor level, with drop ladders.

Egress from basement.

All buildings used as stores, department stores, or buildings of any kind in which people assemble in the basement of said stores or buildings, there shall be provided safe means of egress from the basement, leading directly to the street, the proper location of such places of egress to be determined by the Chief of the Bureau of Building Inspection.

"Height" defined.

Section 8. In this act the term "height" of a building means the vertical distance of the highest point of the roof, in the case of flat roofs; and for high-pitched roofs, the average of the height of the gable above the mean grade of the curbs of all the streets, or the mean grade of the natural ground adjoining the building, if the said grade or ground is not below the grade of the curb.

Repeal.

Section 9. So much of said acts or parts of acts conflicting herewith are hereby repealed.

Approved—The 25th day of April, A. D. 1903.

SAML. W. PENNYPACKER.

The foregoing is a true and correct copy of the Act of the General Assembly No. 236.

FRANK M. FULLER,
Secretary of the Commonwealth.

THE ACT

Of June 7, 1895, provides:

Construction of tenement houses.

Section 1. That no tenement house shall hereafter be erected, altered or constructed in any city of the first class, unless such erection, alteration or construction shall be in conformity with the provisions of this act.

Open space in rear or at side required, except where erected upon corner lot.

Section 2. Every tenement house hereafter erected, altered or constructed in any city of the first class, shall have attached to it in the rear or at the side an open space equal in area to at least twenty per centum of the entire area of the lot upon which said tenement house is erected, which open space shall be unobstructed by any over-hanging structure, except fire-escapes required by law, unless, however, such tenement house shall be erected upon a corner of two streets, neither of which is less than twenty feet in width, in which case said tenement house shall have an open space attached to it in the rear or at the side next the adjoining lot, equal in area to at least ten per centum of the entire area of the lot upon which said tenement house is erected, which open space shall be unobstructed by any overhanging structure, except fire-escapes required by law; and any such tenement house which shall be erected upon a lot bounded on three sides by streets not less than twenty feet in width, may be erected to cover the entire area of said lot: Provided, That every window opening from the living rooms in said tenement house shall open upon one of such streets. Such open space attached to every such tenement house shall be at least eight feet in width throughout its entire length. No court or open space between tenement

Dimensions of each open space.

houses or between wings of a tenement house shall be of a less width than twelve feet. If such tenement house shall be built upon a lot which is bounded upon two opposite sides by streets, then at least one end of every such open space shall abut upon one of such streets. Every court or shaft which shall be built for the purpose of furnishing light or air to any such tenement house shall open upon one side into a street or into the yard or open space, except such shafts as may be necessary for the ventilation of water closets or bath rooms.

Light and air shafts.

Windows in tenement houses.

Section 3. Every room in every such tenement house shall have at least one window opening upon a street or upon the open space provided for in the second section of this act. And the distance from every window in every such tenement house to the wall or party line opposite to it shall be at least eight feet. The halls on each floor of every tenement house shall have a window or windows opening either upon a street or upon the open space provided for in the second section of this act, and shall have no room or other obstruction at the end unless sufficient light and ventilation is otherwise provided for said halls in a manner approved by the Chief of the Bureau of Building Inspection. But whenever in the judgment of the Chief of the Bureau of Building Inspection it shall be possible to construct such tenement houses without corridors connecting the entrance of several tenements or suites of rooms, the Chief of the Bureau of Building Inspection may require that such tenement house be so constructed that it shall contain no such corridors.

Corridors.

Dimensions of rooms.

Section. 4. Every habitable room in every such tenement house shall be of such dimensions as to contain at least seven

hundred cubic feet of air. Every habitable room in every such tenement house shall be in every part not less than eight feet in height from floor to ceiling, and every window shall have an opening of not less than twelve square feet in superficial area, but the Bureau of Building Inspection may permit windows of less size than twelve square feet if more than one window is provided for a room, so that, however, the total window space for one room shall not be less than twelve square feet.

Size of windows.

Section 5. All stairways in such tenement houses shall lead directly to the ground floor. The location and construction of all stairways shall be determined by the Chief of the Bureau of Building Inspection, so as to provide for the safety of the occupants of such tenement house.

Stairways in tenement houses.

All such tenement houses shall be provided with a tower fire-escape or tower fire-escapes, enclosed in incombustible material, the number and location of which shall be determined by the Chief of the Bureau of Building Inspection.

Fire escapes.

All stairways shall have a rise of not over eight inches to a step and not less than nine inches tread, exclusive of the nosing. All stairways and all hallways must not be less than three feet in width in houses containing less than fifteen rooms, not less than three feet six inches in width in houses containing not less than fifteen rooms and not more than twenty-five rooms, and not less than four feet in width in houses containing twenty-five or more rooms.

Construction of stairways.

Width of stairways and hallways.

Section 6. In every such tenement house there shall be one water closet for every tenement or suite of rooms which has its own independent hallway, so separated that its rooms do not open into or connect with any other rooms; and in tenement houses

Water closets in tenement houses.

so constructed that a tenement may consist of a single room or of two rooms, there shall be at least one water closet for every three rooms: Provided, That in the case of buildings existing at the date of this act, which shall hereafter be altered into tenement houses, there shall be one water closet for six rooms, but not less than one for each floor. Every water closet shall be separated from every other water closet, and shall have an entrance entirely independent of the entrance to every other water closet. There shall also be an independent water supply, and at least one sink for every tenement or suite of rooms. No hydrant shall be permitted in the yard or open space provided for in the second section of this act.

Water supply.

Receptacle for ashes.

Section 7. In every such tenement house there shall be a suitable receptacle for ashes, constructed of incombustible material, and interior chutes or shafts leading to the same shall not be permitted.

Tenement houses to be fire-proof.

Section 8. All such tenement houses, more than four stories in height, which shall hereafter be erected, altered or constructed, shall be made fire-proof throughout: Provided, however That this section shall not preclude the use of wooden floor boards and sleepers or beams to which to fasten the same, which, however, shall be imbedded to their top surface in incombustible material.

Plans and specifications to be filed with Chief of Bureau of Building Inspection.

Section 9. The Chief of the Bureau of Building Inspection shall require such plans and specifications of any proposed erections, alterations or constructions of tenement houses as sufficiently set forth and record the intent of the builder to comply with the requirements of this act to be filed with him. And no permit for the erection or construction of any such tenement houses shall be granted unless the same

shall be in conformity with the provisions of this act.

Penalties for violating provisions of this act.

Section 10. Any person who shall erect, alter or construct such a tenement house, except in conformity with the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof, be sentenced to an imprisonment not exceeding three months, or to pay a fine not exceeding five hundred dollars, or both, at the discretion of the court.

Owner or builder may appeal from decision of Chief of Bureau.

Section 11. Whenever any owner or builder shall deem himself aggrieved by any decision of the Chief of the Bureau of Building Inspection made in performance of the powers conferred upon him by this act, such owner or builder shall be entitled to an appeal from such decision, as provided by Section 5 of the act to which this is a supplement.

Definition of tenement house.

Section 12. The term tenement house in this act shall be taken to mean every building which, or a portion of which, is occupied or is to be occupied as a residence of three or more families, living independently of each other, and doing their cooking upon the premises.

THE ACT

Of March 11, 1862, provides that:

Board of Surveyors and Regulators to perform duties as fence viewers; to be sworn to the faithful discharge of such duties.

The Board of Surveyors and Regulators of the City of Philadelphia shall, in addition to the duties now imposed upon them, perform the duties hereinafter prescribed, as fence viewers; in addition to the oath now prescribed to be taken by the said surveyors and regulators, they shall be sworn or affirmed to discharge their duties as such viewers, faithfully and impartially.

President of Board of Surveyors and Regulators on application to appoint three members of Board to examine line or party fence.

On application made to the said Board of Surveyors and Regulators the president shall, at the first meeting of said Board thereafter, appoint three members thereof, who shall, within five days thereafter, proceed to view and examine any line or partition fence, and shall make out a certificate in writing, setting forth whether in their opinion the fence, if one has been already built, is lawful or otherwise; and if not lawful, or if no fence is built upon said line, then stating what proportion of costs, repairing the old or building a new fence, should be borne by each party; and in each case they shall set forth the sum each party ought to pay to the other, in case he should build or repair the other party's portion of said fence, a copy of which certificate shall be delivered to each of the parties; and they shall also present to the said Board at the next stated meeting thereafter a report of their proceedings, which report, if approved by said Board, after hearing of the parties interested, shall be final and conclusive.

To give certificate and apportion cost.

Copy of certificate to be given to parties.

Report to be made to Board.

Partition fences in rural districts to be substantially made.

Construction of same.

Tight board or palisaded fences in built up portion of City.

Board to designate kind of fence.

Cost of such fences.

All partition fences dividing inclosed lands within the rural districts of the said City of Philadelphia shall be substantially made, at least four feet six inches high, of sufficient rails or logs, the bottom rails or logs to be not more than eight inches above the ground; and in built up portions of said city, a tight board or palisaded fence, substantially built, at least six feet high; and in either case the said viewers and Board of Surveyors and Regulators shall have power to designate the kind of fence to be built: Provided, The costs in the rural districts shall not exceed twelve cents per lineal foot, and in the built up portions of said city, not exceeding twenty-five cents per lineal foot.

In all cases where a building shall be a part of such party fence the owner of the

ground on which such building is erected shall be allowed for so much of said building as forms part of the partition, as part of the whole fence in proportion to the cost of the whole, and in case the parties shall agree to divide any partition fence between them, such agreement, setting forth the kind of fence and what portion of the same each party shall make and keep in repair, shall be filed in the office of the Board of Surveyors and Regulators, to be kept as a public record. All laws applying to fence viewers or partition fences in the City of Philadelphia, as are hereby altered, amended or supplied, are hereby repealed.

Proportion of cost where a building is part of a party fence.

Agreement to divide partition fences to be filed.

Laws hereby altered, amended or supplied, repealed.

THE ACT

Of March 22, 1865, provides that:

If the party who shall be delinquent in making or repairing any fence in accordance with any provisions of the act to which this is a supplement shall not, within ten days after the report shall have been approved by the Board of Surveyors and Regulators, proceed to repair or build said fence, and complete the same or build said fence, and complete the same in a reasonable time, it shall be lawful for the parties aggrieved to repair or build said fence; and if the costs for the work done and materials furnished are not paid by the delinquent party within three months after the completion of the same, a lien may be filed against the premises for said costs and expenses, which shall be of the same effect, and may be sued out and collected in the same manner, as municipal claims are now by law collected.

Delinquent party to repair or build fence, or party aggrieved may do so at his expense.

Lien may be filed against premises for costs and expenses.

THE ACT

Of May 6, 1870, provides that:

Duties of Board of Surveyors and Regulators as fence viewers to be performed by the Building Inspectors.

From and after the passage of this act the duties to be performed by the Board of Surveyors and Regulators of the City of Philadelphia as fence viewers, as provided by the Act of March eleventh, one thousand eight hundred and sixty-two, shall be performed by the Building Inspectors of said city, who shall have authority to fix the prices to be paid for the erection or repairs of such fences as may come under their official inspections, and they shall receive a fee of three dollars in each case, to be paid by the applicant for view.

Building Inspectors to fix prices for erection or repairs of fences; fee of three dollars to be paid by applicant.

AN ORDINANCE

To regulate the construction of frame buildings, fences and bay windows, approved March 28, 1894.

Frame buildings may be built in certain portions of the city.

Section 1. The limits within which all buildings hereafter erected or altered shall be required to conform to the Act of Assembly of May 7, 1855, and of the Acts in amendment thereof and in addition thereto, and of the Act of June 8, 1903, are hereby established and defined as follows: All that portion of the city which is included on or within that portion of the First Ward, bounded on the south by Oregon avenue from the Delaware River to Seventh street, thence along Seventh street to the Back Channel League Island; all that portion of the city which is included within the Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, Eleventh, Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, Seventeenth, Eighteenth, Nineteenth and Twentieth Wards; and all that

portion of the Twenty-first Ward on or within the following boundary lines, viz.: Beginning at Port Royal avenue and Schuylkill river, thence along Port Royal avenue to Ridge avenue, thence along Ridge avenue to Roxborough avenue, thence along Roxborough avenue to Houghton street, thence along Houghton street to Hermit street, thence along Hermit street to Wissahickon creek, thence along Wissahickon creek to Schuylkill river, thence along Schuylkill river to place of beginning; all that portion of the Twenty-second Ward on and west of Broad street; all of the Twenty-third, Twenty-fourth, Twenty-fifth, Twenty-sixth Wards; all that portion of the Twenty-seventh Ward on or within the following lines: Beginning at Schuylkill river and Market street, thence along Market street to Cobb's creek, thence along Cobb's creek to Woodland avenue, thence along Woodland avenue to Tinicum Island road, thence along Tinicum Island road to Powers' lane, thence along Powers' lane to Eastwick street to the Baltimore and Ohio R. R., thence along the Baltimore and Ohio R. R. to Schuylkill river, thence along the Schuylkill river to the place of beginning; all of the Twenty-eighth, Twenty-ninth, Thirtieth, Thirty-first, Thirty-second, Thirty-third, Thirty-fourth, and that portion of the Thirty-fifth Ward on or within the boundaries or lines between Dark Run lane and Bleigh street and between Frankford avenue and the Delaware river, and on the said line of Frankford avenue to Pennypack creek, and within that portion bounded by the Pennypack creek, the New York Division of the Pennsylvania Railroad, Decatur street and Frankford avenue, and all of the Thirty-sixth and Thirty-seventh Wards.

Limits within which frame buildings cannot be erected

Provided: That, on land assessed at farm rates, and used for farm purposes, frame

Except frame buildings on farm lands.

buildings for farm purposes only shall be erected.

Prohibition to apply to both sides of streets.

Provided: That the prohibition against the erection of frame buildings shall apply to both sides of the streets named as boundaries.

Temporary frame buildings for church worship in certain wards permitted.

Provided, however, That in the First, Twenty-first, Twenty-second, Twenty-third, Twenty-fifth, Twenty-sixth, Twenty-seventh, Twenty-eighth, Thirty-third, Thirty-fourth, Thirty-fifth, and Thirty-sixth Wards temporary frame buildings for church worship may be erected, subject to the following conditions:

Height of such frame buildings.

First—No such frame buildings shall be more than one story high, if built in any portion of the aforesaid wards within the limits defined in Section 1.

Cannot be erected unless consent of adjoining property owners is secured and bond given.

Second—No permit shall be granted for such buildings unless the applicant shall have the consent in writing of at least two-thirds of the adjoining or abutting property owners, and the owners of properties on the opposite side of the street to the lot desired to be built on shall, to the width of the said lot, be deemed adjoining owners.

Third—No permit shall be granted for any such building until the party desiring the permit shall file with the City Solicitor a bond in the sum of $500, conditioned that the said building shall be used only for purposes of church worship, and that it will be removed when it ceases to be used for church worship, or whenever Councils shall amend this ordinance so as to prohibit frame church buildings in the territory within which the building is situate, or on the passage of a resolution by Councils requiring its removal.

Enlarging or removing frame buildings.

Section 2. Within the limits defined in Section 1, it shall not be lawful to enlarge a frame building, or to remove any such

building, except on the same lot or an adjoining lot belonging to the same owner. It shall not be lawful to repair, reconstruct or remove any frame building which has been injured more than fifty (50) per cent. of its original value by wear and tear or by the effects of the elements, or by fire; said value to be determined by the Bureau of Building Inspection.

Injured frame buildings not to be reconstructed or removed.

Section 3. Within the limits defined in Section 1, it shall be lawful to erect on wharves frame sheds not exceeding twenty-seven (27) feet in height, and elevators for the storage of grain, or sheds of wood for the storage of coal or lumber, but all the external parts of such sheds and elevators (except sheds for the storage of lumber) shall be covered with slate, tile, metal or incombustible material, and their mode of construction and location shall be subject to the approval of the Bureau of Building Inspection.

Frame sheds on wharves, elevators for grain, coal and lumber sheds permitted.

Section 4. Within the limits defined in Section 1, it shall not be lawful to erect or construct upon the first story of any building any bay, oriel, store or bulk window, projecting beyond the street line.

Bay or bulk windows prohibited on first story over street line.

Section 5. Bay and oriel windows may hereafter be constructed upon buildings where projecting over the street line, as follows: The walls of all such bay or oriel windows, if made of combustible material, shall be covered with metal or other incombustible materials. The limitation of the dimensions and positions of such bay or oriel windows shall be as follows:

Manner of construction of bay and oriel windows.

First—No such bay or oriel window shall be at a less distance than ten (10) feet from the sidewalk.

Second.—No such bay or oriel window shall project more than three (3) feet over the street line of any building.

Third.—No such bay or oriel window shall have a greater frontage than fifteen (15) feet.

Fourth.—There shall not be more than one bay or oriel window for any twenty-five (25) feet of frontage, and no two bay or oriel windows upon the same story shall be built nearer to each other than five (5) feet.

Fifth.—It shall not be lawful to erect any bay or oriel window except within lines drawn from the intersection of the party lines and the street line at an angle of twenty (20) degrees with the latter.

Bay and oriel windows not projecting over street line.

Nothing herein contained shall, however, limit the size of bay or oriel windows which are built in such manner as not to project over the street line of the buildings of which they form a part, but the size, number, construction and structural parts of such bay or oriel windows shall be subject to the approval of the Bureau of Building Inspection: Provided, however, That no bay or oriel window shall project more than four (4) feet from the wall line of the house of which it is a part.

Limit of height of wooden fences.

Section 6. It shall not be lawful to build any fence of wood dividing or enclosing any property, of a greater height than ten (10) feet from the ground, nor any fence beyond the building line. Provided, however, That railings may be constructed around excavated areas now existing. This section shall not prohibit the erection of a temporary fence during building operations, but no such fence shall be erected more than five (5) feet from the building line.

Construction of wooden buildings outside of prescribed limits. Dwellings.

Section 7. Outside the limits defined in Section 1, wooden buildings may be erected subject to the following restrictions and regulations: A wooden building to be used as a dwelling house shall not exceed a

height of forty-five (45) feet, and external walls of said building shall not be placed at a less distance than eighteen (18) inches from the party line of the lot upon which the building is to be erected, unless a brick external wall is substituted for the wooden wall, and of a thickness described by the Act of Assembly approved June 8, 1893, regulating the thickness of brick external walls.

Space between wooden buildings used as dwellings.

Where a wooden building is already erected for dwelling purposes upon an adjoining lot, there shall be between the walls of the building erected and the one to be erected—if of wood—a clear, open space of three (3) feet between the said buildings.

Walls between wooden dwellings.

In the erection of wooden buildings in blocks of two or more houses, to be occupied for dwelling purposes, the said buildings shall have intercepting brick walls not less than nine (9) inches thick, said walls to be carried up and topped out ten (10) inches above the roof and covered with metallic covering.

Wooden buildings when used otherwise than as dwellings.

Wooden buildings to be used for other purposes than that of a dwelling house shall not exceed fifty (50) feet in height above the grade of the street or place upon which the said building is to be erected, and shall not be placed at a less distance than ten (10) feet from any wooden building which is twenty-five (25) feet or more in height, or at a less distance than four (4) feet from any other wooden building which is less than twenty-five (25) feet in height.

Foundations for wooden buildings.

Section 8. All wooden buildings shall be built upon secure foundations of stone or brick, carried up to the surface of the ground. The foundations, if of brick, shall not be less than thirteen (13) inches thick, and if of stone, shall not be less than sixteen (16) inches thick. All foundations

shall be laid upon solid ground, or upon piling, or other solid substructure. In the construction of workshops or other buildings of a like character, or for temporary purposes, built upon soft or marshy land, the inspector may, in his discretion, permit the sills to be placed upon mudsills or blocking, or upon piles cut to the height of grade.

Strength of wooden buildings.

All wooden buildings shall be constructed to carry such safe weights per superficial foot for the several purposes for which they are constructed as is defined in Section Twenty-six (26) of the Act of Assembly, approved June 8, 1893.

Flues, chimneys, hearths, trimmer arches, etc., in wooden buildings.

Section 9. In all wooden buildings hereafter erected or altered, the framing around flues, and the construction of chimneys, flues, hearths, trimmer arches, open fireplaces, and hot-air flues and heating apparatus, steam boilers and ranges, shall be in accordance with the Act of Assembly approved June 8, 1893.

Construction of open shelter sheds of wood.

Section 10. Open shelter sheds of wood may be erected under permit, but no such shed shall be enclosed with combustible materials on any of its four sides. The location and construction of said sheds shall be subject to the inspection and approval of the Bureau of Building Inspection.

Permits required for all constructions, etc.

Section 11. All constructions, extensions, or repairs, under the provisions of the said Act of Assembly, approved June 8, 1893, or under the provisions of this ordinance, shall be done only after permit is granted by the Bureau of Building Inspection and in conformity with the permit; and any person or persons building, altering, or repairing without such permit first secured, or otherwise than in conformity with the said permit, or the said Act, or this ordinance shall be subject to the several pen-

Penalty imposed for acting without permit.

alties imposed by the said Act for violations of its provisions.

Section 12. All ordinances or parts of ordinances inconsistent herewith be, and the same are hereby repealed. Repealing clause.

AN ORDINANCE

Amendatory to an ordinance entitled "An Ordinance to regulate the construction of frame buildings, fences and bay windows.

Approved March 28, 1894.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That the first section of an ordinance entitled "An Ordinance to regulate the construction of frame buildings, fences and bay windows," approved March 28, 1894, be altered and amended by striking out the words "all of the Twenty-third Ward," and inserting the following: "All that part of the Twenty-third Ward commencing at Frankford creek and Wingohocking street; thence along Wingohocking street to Oakland street; thence along Oakland street to Lindley street; thence along Lindley street to Leiper street; thence along Leiper street to Wakeling street; thence along Wakeling street to Tackawanna street; thence along Tackawanna street to Margaretta street; thence along Margaretta street to Pennsylvania Railroad; thence along Pennsylvania Railroad to the Frankford creek; thence along the Frankford creek to the place of beginning; also both sides of Frankford avenue, between Wakeling street and Dark Run lane." Also strike out the words, "Twenty-fifth Ward," and insert the following: "All that portion of the Twenty-fifth Ward bounded on the east by the Delaware River, on the west by Kensington avenue, on the north by Frankford creek and Luzerne street, Relates to 23rd Ward.

and on the south by Lehigh avenue;" also strike out all that portion relating to the
35th Ward. Thirty-fifth Ward after the words, "boundaries or lines between," and insert the following: "Magee street and Bleigh street and Frankford avenue and Delaware River, and along the line of Frankford avenue, from Dark Run lane to Pennypack creek; Provided, however, That on the 1st day of January, 1911, the lines defined in this amendment will cease, and the lines defined in the first section of the ordinance to which this is an amendment shall be re-established."

Approved the twelfth day of March, A. D. 1906

JOHN WEAVER,
Mayor of Philadelphia.

THE ORDINANCE

Of June 12, 1894, provides:

Section 1. That Section 1 of an ordinance entitled "An Ordinance to regulate the construction of frame buildings, etc.," approved March 28, 1894, be, and the same is hereby amended by inserting after the word "beginning" in the twenty-third line the words "and all that portion of the
21st Ward Twenty-first Ward lying between the Wissahickon creek, Wissahickon avenue and School lane," so that the same will read, "Thence along Schuylkill River to place of beginning, and all that portion of the Twenty-first Ward lying between the Wissahickon creek, Wissahickon avenue and School lane."

Also amend Section 2 by adding the following words at the end of the section; and in addition thereto: "Any person or persons who shall make any alteration, construction or removal without permit therefor first issued, or in violation of

any of the provisions of this ordinance, or who shall have become the owner thereof after the same has been done, and who shall omit, neglect or refuse to remove the same within thirty (30) days after notice to that effect, shall forfeit and pay for each offence the sum of seventy-five (75) dollars, and a further sum of twenty-five (25) dollars for every period of one month for which the said person or persons shall omit, neglect or refuse to remove the same after the expiration of the notice aforesaid, and any person or persons who shall contract for the erection or construction of any building or other thing in violation of any of the provisions of this ordinance shall be subject to a penalty of twenty-five (25) dollars. All of the aforesaid penalties to be recovered as penalties of equal amount are or shall be recoverable for the use of the city."

Penalty for violation.

AN ORDINANCE.

Approved March 27th, 1907.

Amendatory to an ordinance entitled "An Ordinance to regulate the construction of frame buildings, fences and bay windows," approved March 28, 1894.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That the first section of an ordinance entitled "An Ordinance to regulate the consruction of frame buildings, fences and bay windows," approved March 28, 1894, be altered and amended by striking out and changing the words Port Royal avenue, wherever they appear in said section, to the words Paoli avenue; Provided, That not more than two (2) frame buildings, either singly or in pairs, shall be erected on a lot of the frontage of one hundred feet.

21st Ward.

AN ORDINANCE

To regulate and determine the license fee for permits in the Bureau of Building Inspection, Department of Public Safety, as required by Section 41, of the Act of Assembly, approved June 8, 1893.

Approved March 28, 1894.

Permit required for the construction or alteration of any building.

License fees for such permits.

Where building does not exceed 30 ft. in height, 18 ft. in width, and with a superficial area not exceeding 1600 square feet.

Where building is over 18 ft. wide, not over 30 ft. high and not exceeding in superficial area 2000 sq. feet.

Extra fees for additional stories, or greater area of building.

Fee for inspection of heating apparatus and flues.

Fee when repairs or alterations are to be made.

Fee when application is

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That where any person or persons shall be desirous of erecting, constructing or altering any house or building, such person or persons shall make application at the office of the Bureau of Building Inspection for a permit for that purpose, and shall pay for such permit the various sums as follows:

For the inspection of each or any building not exceeding thirty (30) feet in height and eighteen (18) feet in width, and not exceeding a superficial area of sixteen hundred (1600) square feet, the fee shall be three (3) dollars.

For the inspection of each or any building over eighten (18) feet in width not exceeding thirty (30) feet in height, and not exceeding in superficial area two thousand (2000) square feet, the fee shall be five (5) dollars, and the further sum of one (1) dollar in addition for each story above thirty feet in height, and a like sum of one (1) dollar for each additional one thousand (1000) square feet of ground covered by such house or building.

For the inspection of heating apparatus and flues in all buildings in which the same has not been heretofore introduced the fee shall be one (1) dollar.

For the inspection of buildings for which application is made for repair or alteration, the fee shall be two (2) dollars.

For the inspection of buildings where application is made to tear down and no ap-

plication is made for a permit to erect a new building upon the same ground, the fee shall be two (2) dollars.

made to tear down only.

For the inspection of any building or buildings already erected, upon complaint in due form as to being dangerous, said building or buildings not exceeding four (4) stories in height, the fee for each building shall be ten (10) dollars, and for each additional story an additional sum of one (1) dollar. The fee shall be deposited with the Chief of the Bureau, but shall not be retained after the inspection and examination is made unless the inspector making the examination shall certify to the Chief that in his judgment the complaint was groundless or malicious.

Fee for inspection of building upon complaint as to being dangerous.

Fee not to be retained unless complaint was groundless or malicious.

For fence views the fee shall be three (3) dollars, fixed by Act of Assembly, approved May 6, 1870.

Fee for fence views.

For the inspection of frame shed and overhanging bath to dwelling houses already erected the fee for each shall be one (1) dollar.

Fee for inspection of frame sheds or overhanging bath rooms.

For the inspection of a bay or oriel window the fee shall be two (2) dollars.

Fee for inspection of bay or oriel windows.

For the inspection of open shelter sheds, when not exceeding a superficial area of five hundred (500) feet, the fee shall be one (1) dollar; for each additional five hundred (500) feet or part thereof the fee shall be fifty (50) cents. For the inspection of boiler and engine foundations in buildings in which the same has not been heretofore introduced, and in any new building in which the application for the permit for the erection of the said building does not include the introduction of a boiler or engine, the fee for the same shall be two (2) dollars.

Fee for inspection of open shelter sheds.

Fee for inspection of boiler and engine foundations.

Section 2. All ordinances or parts of ordinances inconsistent herewith be and the same are hereby repealed.

Inconsistent Ordinances repealed.

Steam Engines.

THE ACT OF ASSEMBLY

Of May 7, 1855, provides that:

No steam engine to be erected without approval of Inspector. Penalty for violation of this provision. If built in dangerous manner steam engine may be altered or removed by order of court.

No steam engine shall be erected without the inspection and approval of an Inspector as aforesaid, for the security and safety of the inhabitants, under the penalties hereinbefore prescribed in respect to buildings constructed contrary to this act, and if built in connection with any wooden or brick paned building, or in other dangerous manner contrary to the permit or direction of such inspector, the same shall be altered or removed, according to the decree of said Court.

AN ORDINANCE

Relating to nuisances, approved September 23, 1864.

Size of cellar door, porches, etc. Sept. 23, 1864.

Section 11. To place or maintain any cellar door, porch, or steps, which shall extend more than four feet six inches into any footway of any street of fifty feet wide or upwards, or a proportionate distance into any footway in any street of less width than fifty feet.

Size of fences, railing, etc.

Section 12. To set up or maintain any fence beyond the building line, or any railing, except around excavated areas now existing, so as to reduce the footways of streets of one hundred feet and over in width, to a width of less than sixteen feet; of eighty feet streets to a width of less than fourteen feet; of streets of sixty feet in width to less than twelve feet; of streets of fifty feet in width to a width of less than ten feet and of all streets of a less width than fifty feet to a width less than eight feet.

AN ORDINANCE

To prohibit the erection of porches beyond the building line of the streets or highways of the City, declaring such porches to be a nuisance, providing a penalty for the erection thereof, and providing for the collection of the cost of removal.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That from and after the passage of this ordinance, it shall be unlawful to erect any porch projecting beyond the building line upon any of the public streets or highways of the City, and any porch so erected after this date, is hereby declared a nuisance.

Porches must not project beyond building line.

Section 2. Any person who shall construct or begin the construction of any porch in violation of this ordinance shall forfeit and pay to the City of Philadelphia the sum of fifty (50) dollars for each offence, and shall be required to remove said porch and replace the street in its proper condition.

Penalty

Section 3. If the said person or persons shall neglect or refuse to remove such porch and replace the street in proper condition, as set forth, within ten days from the date of notice from the Department of Public Works, then and in that case the said Department is hereby authorized and directed to have the said work done and the bill for same presented for payment to the owner or owners in front of whose properties said porch is constructed or attempted to be constructed, and in the event of said owner or owners refusing to pay said bill within ten days from the date thereof, the contractor who did the work shall be paid out of the item for

Department may remove.

emergencies in the annual appropriation to the Bureau of Highways, and the bill shall be transmitted to the City Solicitor to collect by lien from the owner or owners against whom the work has been charged. The penalty herein mentioned shall be sued for and recovered in the manner as penalties for violation are by law sued for and recovered.

Section 4. So much of Section 11 of ordinance of September 23, 1864, as permits the erection of porches, and all ordinances or parts of ordinances inconsistent herewith be, and the same are hereby repealed.

Approved the twenty-third day of February, A. D. 1906.

JOHN WEAVER,
Mayor of Philadelphia.

THE ORDINANCE

Of September 23, 1864, provides that it shall be a nuisance:

Privy wells, vaults or sinks, not to be within two feet of adjoining lot. Such privy wells, etc., to be filled up at expense of owner.

To construct or maintain any privy, well, vault, or sink, for the purpose of containing any offensive matter, within two feet of the line of any adjoining lot. And in addition to the penalty hereinafter provided, five (5) dollars, the said privy, well, vault or sink, shall be filled up at the expense of owner or owners thereof, by the Building Inspectors of the City of Philadelphia.

AN ORDINANCE

Of January 10, 1895

Manure pits under the sidewalks.

To prohibit the erection and maintenance of manure pits in certain built up portions of the city, provides:

That on and after May 1, 1895, it shall be unlawful to maintain pits used for the stor-

age of manure (whether temporarily or otherwise) under any portion of the sidewalks in front of any building in any square, or part of a square whether for livery or other purposes, of any street within the City of Philadelphia, which is in whole or part occupied by dwelling houses, and all pits now in existence shall either be filled up or covered in such manner that they cannot be any longer used for the purposes heretofore mentioned. Penalty, fifty dollars.

ACT OF ASSEMBLY

May 7, 1855,

Relating to walls encroaching over party lines, provides:

Encroachment over party lines.

Section 8. That any lot of the width of sixteen feet or less shall not be incumbered with more than nine inches of the stone wall, or more than four and a half inches of the brick wall, nor in any case shall any party wall be placed on the adjoining lot more than ten inches for the stone wall, or more than six and a half inches for the brick wall.

ORDINANCES

Relative to occupying the streets of the City of Philadelphia with building material, etc. The Ordinance of June 2, 1887, provides:

Permit required for placing building material on public street or road.

That when any person or persons shall be about to erect or repair any house or building within the City of Philadelphia, and shall be desirous to occupy a part of the public street or road for placing building materials thereon, he or they shall make application to the License Clerk at

Form of application for such permit.

the Bureau of Highways (stating the number and extent of such building or buildings for the accommodation of which he may desire so to occupy said street or road, and thereupon the License Clerk shall issue a written or printed permit to occupy such part of any public street or road in the neighborhood for the purpose aforesaid, not exceeding in extent the dimensions of the front on the premises about to be built upon or repaired and eighty (80) feet in addition thereto, and not exceeding nine (9) feet in breadth, thirteen (13) feet in height and one (1) foot over curbstone, with a gutter left along the curb fifteen (15) inches high, with cleanout holes 12x18 every twenty-five (25) feet in length, for any time not exceeding four (4) months as shall be deemed necessary and reasonable: Provided, That a sufficient passage or cartway shall at all times be left unencumbered between said building materials and the opposite curbstone for the passage of vehicles: And provided further, That no building materials be placed within four (4) feet of any fire plug or flagstone crossing, or within two and a half (2½) feet of any railroad track.

Space to be occupied not to exceed certain dimensions.

Passage or Cartway to be left in street where building materials shall not be placed.

Wooden platform to be erected in front of buildings about to be erected or repaired.

The Ordinance of May 3, 1855, provides: That during the erection or repair of any building in the City of Philadelphia it shall be the duty of the owner thereof, or of the person having charge of the erection or repair of such building to cause to be placed a wooden platform, which shall extend along the whole front of such building about to be erected or repaired, and which shall project two and a half (2½) feet from the wall thereof to the curbstone or line of the foot pavement, and be of sufficient strength to intercept the falling of bricks, lumber, or other building materials. Penalty, fifty dollars.

Penalty for violation.

THE ORDINANCE

Of June 7, 1872, provides :

Lantern to be placed on building materials or alterations from sunset to sunrise.

That all contractors, owners or occupants of buildings, or others placing building materials of any kind or any other obstructions or excavations upon or across the cartway of any public thoroughfares in this city, shall place and keep thereon from sunset to sunrise a lighted lantern of red glass; and whenever such obstructions or excavations exceed ten (10) feet in length or breadth, one such lantern shall be placed upon each end thereof. Penalty, five dollars.

Penalty for violation.

THE ORDINANCE

Of April 6, 1892,

Declares it to be a nuisance and under penalty of twenty dollars,

Mortar, mortar beds, or lime boxes not to be placed upon highways paved with asphaltum or concrete, except under certain conditions.

To place any mortar, mortar beds, or lime boxes upon any of the public highways of the City which are paved with asphaltum or concrete; Provided, however, that mortar may be mixed in boxes, the bottoms of which must be of tight tongued and grooved boards, placed upon four (4) inch bearers or sleepers, leaving an air space and protected on all sides by a margin of two (2) inch boards, not less than six (6) inches high above the floor surface.

THE ACT

Of May 11, 1893, provides:

That it shall be the duty of the party or parties having charge of the construction of any new building hereafter erected in

During the construction of new buildings the joists or girders above third floor shall be covered to protect workmen, etc.

this Commonwealth, to have the joists or girders of each floor above the third story covered with rough scaffold boards, or other suitable material, as the building progresses, so as to sufficiently protect the workmen either from falling through such joists or girders, or to protect the workmen or others who may be under or below each floor from falling bricks, tools, mortar, or other substances whereby accidents happen, injuries occur, and life and limb are endangered. For every violation of this act a penalty not exceeding one hundred (100) dollars for each floor of joists or girders left uncovered is imposed.

Penalty for violation of this Act.

AN ORDINANCE

Of June 30, 1892,

To provide for the widening of Walnut street from Fifth to Twenty-second.

Width of Walnut Street.

Provides, That the Bureau of Surveys be authorized to revise the city plan, so as to make the width of Walnut street from Fifth street to Twenty-second street such as shall conform with the buildings thereon erected, as the same may be practicable; such width to be uniform in each block. After the confirmation and establishment of said lines it shall not be lawful for any owner or builder to erect any new building, or to rebuild or alter the front or add to the height of any building now erected, without making it recede so as to conform to the line established.

New buildings.

Alterations.

Amended by Ordinance of December 30, 1892, by striking out the word "Fifth" and inserting the word "Sixth."

AN ORDINANCE

To provide for the widening of Chestnut street on the city plan.

Widening Chestnut Street.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That the Department of Surveys be, and is, hereby authorized to revise the city plan so as to make Chestnut street, from the Delaware River to the Schuylkill River, of the width of sixty (60) feet, widening equally on both sides from the old centre line.

New buildings.

Section 2. After the confirmation and establishment of said lines it shall not be lawful for any owner or builder to erect any new building, or to rebuild or alter the front of any building now erected, without making it recede so as to conform to the lines established for a width of sixty (60) feet.

March 31, 1884.

Approved the thirty-first day of March, A. D. 1884.

AN ORDINANCE

Amending an ordinance entitled "An Ordinance relative to the widening of Arch street," approved the twelfth day of February, 1886.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That the ordinance entitled "An Ordinance relative to the widening of Arch street," approved the 12th day of February, 1886 be altered and amended by adding the words: "And provided further, That nothing herein contained shall be held or construed to prevent any owner of property now existing on Arch street, from taking out the

brick work of front wall between the two windows on first floor, carrying the weight on an iron beam and putting in a bulk window, the said bulk window not to project beyond the building line," so that the same shall, as amended, read: "That the Department of Surveys be, and is hereby directed to widen Arch street, on the north and south lines thereof, from Eighth street to the river Schuylkill, on the city plan, so that hereafter the width of Arch street shall be seventy-two (72) feet from the building line to building line, or thirty-six (36) feet from the now established centre line of said Arch street: Provided, That this ordinance shall not extend to any buildings now erected on said Arch street, and shall extend to all buildings that may hereafter be erected or altered fronting on said street, and that the Department of Surveys shall prepare a plan of said street showing all buildings that will be affected by said widening: And provided further, That nothing herein contained shall be held or construed to prevent any owner of property now existing on Arch street, from taking out the brick work of the front wall between the two windows on first floor, carrying the weight thereof on an iron beam, and putting in a bulk window, the said bulk window not to project beyond the building line."

Width of Arch Street.

Alterations, new buildings.

Bulk windows.

Amendment approved June 29, 1899.

AN ORDINANCE

To regulate the placing of streets upon the city plan and the issuing of building and other permits by the Departments and Bureaus of the city.

Width of streets.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That from and after the passage of this ordinance no street hereafter to be opened

shall be accepted or placed upon the plans of the city that is of a less width than thirty (30) feet, and in no case shall a street be so placed unless it shall run from one public street to another, and in a straight line. Provided, That this ordinance shall not be construed to repeal the existing ordinance fixing the widths of streets in the Twenty-second Ward at not less than forty (40) feet. 22d Ward.

Permits issuing regulated in certain cases.

Section 2. It shall be unlawful for the Board of Building Inspectors, Department of Public Works, or any Bureau under it or any official of the city, either to issue, cause or allow to be issued, any permit or permits for the erection of any building or buildings or for the introduction of gas, water, sewer or drains, or to make surveys or give lines, or in any manner to countenance, authorize or permit the erection of any building or buildings fronting on any street unless said street shall be of not less than thirty (30) feet in width as provided in Section 1 of this ordinance or on the city plan, and all of said streets shall be continuous and run in a straight line from one public street to another.

Approved this eighth day of April, A. D. 1890. April 8th, 1890.

Amended by Ordinance of June 9, 1890, providing that the placing of streets upon the city plan and the issuing of permits shall not apply to any street that was on the city plan or was actually or legally opened at the time said ordinance was passed. Further amended by Ordinance of July 2, 1890, so that the requirements of streets running in a straight line shall not apply to or be operative within the bounds of the Twenty-first and Twenty-second Wards.

AN ORDINANCE

To amend an ordinance, entitled "An Ordinance regulating the placing of streets upon the City plan and the issuing of building and other permits by the Departments and Bureaus of the City," approved the eighth day of April, 1890.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That the Ordinance of Councils, approved the eighth day of April, 1890, entitled "An Ordinance regulating the placing of streets upon the City plan and the issuing of building and other permits by the Departments and Bureaus of the City," be and the same is hereby amended by striking out the words and figures "thirty (30) feet" wherever they appear and inserting in lieu thereof, the words and figures "forty (40) feet:" Provided, That this ordinance shall not apply to any street now on the City plan or that is actually or legally opened or built upon.

Minimum width of streets 40 ft.

Approved the second day of April, A. D. 1906.

JOHN WEAVER,
Mayor of Philadelphia.

AN ORDINANCE

To provide for the enclosing of vacant lots and lots upon which building operations are in progress or upon which excavations have been made.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain:

That from and after the passage of this ordinance it shall be the duty of the owner or owners of unimproved real estate

Vacant lots.

within the City of Philadelphia to enclose the same with a suitable fence upon that part facing on a public highway where the same is dangerous.

Section 2. It shall be the duty of the owner or owners of any lot upon which a building is being erected or upon which an excavation for any purpose shall have been made, where the said lot borders on a public highway, to enclose the same with a suitable fence. Fence in front of excavations.

Section 3. Fences erected under the provisions of Sections 1 and 2 of this ordinance shall be erected under the supervision of the Bureau of Building Inspection, and subject to such regulations as to material and dimensions as shall be prescribed by that Bureau.

Section 4. Any person violating any of the provisions of this ordinance shall be subject to a penalty of fifty (50) dollars for each week during which such violation continues, to be recovered as debts of like amount are now by law recoverable: Provided, That such penalty shall not be imposed upon any person until he shall have failed to comply with the provisions of this ordinance after ten days' notice so to do from the Department of Public Safety. Penalty

Approved November 9, 1897.

Regulations adopted by the Bureau of Building Inspection governing the erection of fences around vacant lots where same are dangerous, or around lots upon which excavations are being made or buildings are being erected.

"Any lot which has been excavated or upon which excavations are being made, or any lot from which a building has been

removed and there is left a cellar or excavation of any kind below the sidewalk grade, in all closely built sections of the city shall be enclosed with a tight board fence at least five feet high.

Height of fence.

"In suburban sections of the city lots facing the public highway shall have at least a post and rail fence extending three feet above the sidewalk, where the said lot is in such condition that pedestrians might suffer injury through the absence of some such safeguard."

ACT OF ASSEMBLY

Relating to Fire Escapes.

Approved July 12, 1897.

Section 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same: That all the following described buildings within this Commonwealth, to wit: Every building used as a seminary, college, academy, hospital, asylum, or hotel, for the accommodation of the public, every storehouse, factory, manufactory or workshop of any kind, in which employes or operatives are usually employed at work in the third or any higher story, every tenement house, or other building in which rooms or floors are usually let to lodgers or families, every public hall or place of amusement, every parochial or public school building and every building used in whole or in part for offices when any of such buildings are three or more stories in height, except buildings used in whole or in part for offices which are of fire-proof construction, shall be provided with a permanent, safe,

Buildings requiring fire-escapes.

external means of escape therefrom, in case of fire, independent of all internal stairways; the number and location of such escapes to be governed by the size of the building, and the number of its inmates; and arranged in such a way as to make them readily accessible, safe and adequate, for the escape of said inmates. Such escapes to consist of outside, open, iron stairway, of not more than forty-five degrees slant, with steps not less than six inches in width and twenty-four inches in length. And all of said buildings capable of accommodating from one hundred to five hundred or more persons, as operatives, guests, or inmates, shall be provided with two such stairways, and more than two stairways if such be necessary to secure the speedy and safe escape of said inmates, in case the internal stairways are cut off by fire or smoke. And it shall be the duty of the owner or owners in fee, for life, of every such building and of the trustee or trustees of every estate, association, society, college, seminary, academy, hospital, or asylum, owning or using any such building, and of the Board of Education or Board of School Directors, having charge of any such school building, to provide, and cause to be securely affixed, outside of every such building, such permanent, external, unenclosed fire escape: Provided, That nothing herein contained shall prohibit any person whose duty it is under this act to erect fire escapes, from selecting and erecting any other and different device, design, or instrument, being a permanent, safe, external means of escape, subject to the inspection and approval of the constituted authorities for that purpose.

Section 2. It shall be the duty of the Board of Fire Commissioners, in conjunction with the Fire Marshal of the district

where such Commissioners and Fire Marshal are elected or appointed, to first examine and test such fire escape or escapes and after, upon trial, said fire escape or escapes should prove to be in accordance with the requirements of Section 1 of this act, then the said Fire Marshal, in connection with the Fire Commissioners, or a majority of them, shall grant a certificate approving said fire escape thereby relieving the party or parties to whom such certificate is issued from the liabilities of fines, damages and imprisonment imposed by this act: Provided, further, That in counties where no such Fire Marshal or Fire Commissioners exist, then the County Commissioners in each said county shall be the Board of Examiners, and shall grant certificates of approval when escapes are erected in accordance with the requirements of Section 1 of this act.

Section 3. That every person, corporation, trustee, Board of Education, and Board of School Directors, neglecting or refusing to comply with the requirements of Section 1 of this act, in erecting said fire escape or escapes, shall be liable to a fine not exceeding three hundred dollars; and also be deemed guilty of a misdemeanor, punishable by imprisonment for not less than one month or more than two months. And, in case of fire occurring in any of said buildings in the absence of such fire escape or escapes, approved by certificate of said officials, the said persons or corporations shall be liable in an action for damages in case of death or personal injuries sustained in consequence of such fire breaking out in said building; and shall also be deemed guilty of a misdemeanor, punishable by imprisonment for not less than six months nor more than twelve months; and such action for damages may be maintained by any persons

Penalty.

now authorized by law to sue as in any other cases of similar injuries: Provided, That nothing in this act shall interfere with fire escapes now in use approved by the proper authorities.

AN ORDINANCE

Regulating the Inspection and Location of Fire Escape.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That when any person or persons shall be about to erect any external stairway, to be used as a fire escape, from any building or buildings, within the City of Philadelphia, he or they shall make application to the Bureau of Building Inspection for a permit to do the same, the said application must be accompanied by such plans and specifications as shall be required by the Bureau of Building Inspection, and shall also set forth the location of the proposed fire escape. The Chief of the Bureau shall refer the said application to the inspector of the said district in which the proposed fire escape is to be erected, and the said inspector shall report upon the adaptability of the proposed location, also whether the walls are sufficiently strong to carry the proposed escape. Upon receipt of a favorable report from the inspector the Bureau shall issue a permit for the erection of the fire escape, the fee for which shall be one (1) dollar.

Plans, specifications and location.

Section 2. No permit shall be granted for the erection of any fire escape which is not in accordance with the formula of construction adopted by the Bureau of Fire Escapes.

Permits.

Section 3. Any person or persons who shall construct any fire escape without per-

Penalty.

mit first secured, or who shall erect a fire escape not in accordance with the plans approved by the Bureau of Building Inspection, or shall change the location of said fire escape, or who shall violate any of the provisions of any section of this ordinance shall be subject to a penalty of fifty (50) dollars, and if such violation shall continue after notice given by the Bureau of Building Inspection, to have the same removed, an additional penalty of twenty-five (25) dollars shall be added for every month or fraction thereof the said violation is permitted to exist; all of the aforesaid penalties to be recovered as penalties of equal amount are or shall be recoverable for the use of the city.

Approved December 10, 1896.

ACT OF ASSEMBLY

Relating to Fire Escapes.

Approved June 3, 1885.

It shall be the duty of the owner or owners in fee or for life, of every building constructed more than two stories high, and used or intended to be used as a hotel, factory, manufactory, workshop, tenement house, school, seminary, college, academy, hospital, asylum, hall, or place of amusement; and of the trustee or trustees of every estate, association, society, college, academy, hospital, or asylum, owning or using any building constructed more than two stories high and used or intended to be used for any of said purposes; and of the Board of Education or Board of School Directors, having charge of any building constructed more than two stories high and used or intended to be used as a public school, to provide and cause to be se-

curely affixed to a bolt through the wall over the window head inside of at least one window in each room on the third floor, and in each room on each higher floor of every such building, a chain at least ten feet in length, with a rope at least one inch in diameter securely attached thereto, of sufficient length to extend to the ground, or such other appliance as may be approved by the Board of Fire Commissioners, of any city or county having a Board of Fire Commissioners, or by the County Commissioners of any county where there is no Board of Fire Commissioners: Provided, however, That when the third floor or any higher floor of any such building is not subdivided into rooms, then at least six windows on each of such floors shall be provided with such chains and ropes, or such other appliances as may be approved by any Board of Fire Commissioners or by the County Commissioners of any county where no Board of Commissioners shall exist. And provided further, That whenever any room on the third floor or on any higher floor of any such building shall contain more than three windows, then at least one window out of every three windows in every such room shall be provided with such chain and rope, or such other appliance as may be approved by any Board of Fire Commissioners or by the County Commissioners of any county having no Board of Fire Commissioners; and each of such ropes shall be coiled and kept in an unlocked box, in an unobstructed place near the inside sill of the window to which such rope is attached. And in all hotels, factories, manufactories, workshops, schools, seminaries, colleges, hospitals, asylums, halls, or places of amusement, or other places mentioned in this act, the hallways and stairways shall be properly lighted at

Ropes and chains.

Hallways and stairways to be lighted.

night; and at the head and foot of each flight of stairs, and at the intersection of all hallways with main corridors, shall be kept during the night a red light; and one or more proper alarms or gongs, capable of being heard throughout the building, shall always remain easy of access and ready for use in each of said buildings, to give notice to the inmates in case of fire; and every keeper of such hotel, factory, manufactory, workshop, school, seminary, college, hospital, asylum, hall, or place of amusement shall keep posted in a conspicuous place in every sleeping room a notice descriptive of such means of escape. And the Board of Fire Commissioners and the County Commissioners of any county having no Board of Fire Commissioners shall have the right to designate the location of the chains and ropes or such other appliances in conformity with this act to be attached to any building under the provisions of this act, and shall grant certificates of approval to every person, firm, corporation, trustee, Board of Education, and Board of School Directors, complying with the requirements of this act; which certificates shall relieve the party or parties to whom the same shall be issued, from the liabilities of fines, damages, and imprisonment imposed by this act.

Red lights.

Gongs.

Notices to be posted.

Section 2. That every person, corporation, trustee, Board of Education and Board of School Directors neglecting or refusing to comply with the requirements of the first section of this act, shall be liable to a fine not exceeding three hundred dollars, to be collected as fines are now by law collectible, and shall also be deemed guilty of a misdemeanor, punishable by imprisonment for not less than one month nor more than twelve months; and in case of fire occurring in any such build-

Penalty.

ing not provided with the chains and ropes or such other appliances as may be required by any Board of Fire Commissioners, or by the County Commissioners of any county where no Board of Fire Commissioners shall exist, in accordance with the requirements with the first section of this act, the person, persons, trustee, trustees, corporation, Board of Education, or Board of School Directors, who or which neglected or refused to provide such building with the chains and ropes or such other appliances as aforesaid, shall be liable in an action for damages in case of death or personal injury being caused in consequence of such fire breaking out in said building; and such action may be maintained by any person or persons now authorized by law to sue in other cases for injuries caused by neglect of duty.

Liability for damages.

Extract from Act May 9, 1889:

And the Board of Fire Commissioners and the County Commissioners of any county having no Board of Fire Commissioners may direct that the foregoing requirements in so far as they relate to the placing and keeping of chains and ropes in hospitals and asylums, may be dispensed with whenever, in their judgment, the same would be unnecessary.

Proviso.

FORMULA GOVERNING THE ERECTION OF FIRE ESCAPES.

In accordance with the Act of Assembly approved July 12, 1897, and the Ordinance of Councils approved December 10, 1896, and supplemental thereto, the following formula will govern the matter of the design, construction and erection of all fire escapes hereafter required within the City of Philadelphia.

PLATFORMS.

The platforms shall consist of iron or steel balconies not less than four (4) feet in width, the length of the platform to be dependent upon the size of the building and the number of its occupants. The Inspector of the District will designate the length of such platform, which shall extend in front of, and not less than nine (9) inches beyond at least two windows, except in the case of a doorway leading from the floor level of the building to the floor level of the platform, in which case such doorway opening will suffice. Each platform shall be provided with a landing at the head and foot of each stairway of not less than twenty-four (24) inches. The floors of balconies must be of wrought iron or steel, one and one-half (1½) inches by five-sixteenths (5/16) inch slats, or channel irons not less than one-quarter (¼) inch thick in their least section, not more than one and one-quarter (1¼) inches apart, and be securely riveted to frame and brackets.

Outside angle frame to be not less than two and one-fourth (2¼) inch angle iron. Where slats of platform run at right angles to wall, wall angle shall be riveted to clips made of angle iron four (4) inches in length let into wall three (3) inches. All stair openings to be sufficient to provide clear headway, but that of the top platform to be no longer than sufficient to provide clear headway.

In all cases platforms must be designed, constructed and erected to safely sustain in all their parts a safe load, at a ratio of four to one, of not less than eighty (80) pounds per square foot of surface.

RAILINGS.

The outside top railing to extend around the entire length of the platform, and through the wall at each end, and to be properly secured by nuts and washers, or otherwise equally well braced and bolted. The top rail of the balcony must not be less than one (1) inch, inside diameter, pipe iron, or material equally as strong. The bottom rail must not be less than one (1) inch, inside diameter, pipe iron or material equally as strong, well leaded into the wall. The standards must be not less than one (1) inch, inside diameter, pipe iron, or material equally as strong, spaced not more than three (3) feet apart and securely braced by means of outside braces, which are to be securely fastened to the brackets of platforms, which brackets shall extend at least six (6) inches beyond railing, and must be securely connected with top and bottom rail and platform frame.

Standards must also be securely braced by means of outside brackets. Railings in all cases to extend around the stairway openings and be continuous down the stairway. The height of the railings to be not less than three (3) feet.

STAIRWAYS.

Stairways must be designed, constructed and erected to safely sustain in all their parts a safe load, at a ratio of four to one, of not less than one hundred (100) pounds per step, with the exception of the tread, which must safely sustain, at a ratio of four to one, a load of two hundred (200) pounds per tread. The treads to be not less than eight (8) inches wide, and the rise not more than eight (8) inches. The stairs in all cases to be not less than twenty-four (24) inches wide, and the

strings or horses to be not less than three (3) inch channels of iron or steel, or other shape equally as strong: Provided, They fall within the allowable stress as prescribed by the Act approved June 5, 1901, and to rest upon and be fastened to a bracket; said bracket to be fastened through the wall as otherwise provided for brackets. The strings or horses to be also securely fastened to the balcony at the top. The steps in all cases to be double riveted or bolted to the strings or horses.

BRACKETS.

Brackets must be not less than two and one-fourth (2¼) inch angle iron or steel, or material equally as strong, not more than three (3) feet apart, braced by means of not less than one (1) inch square, or one and one-fourth (1¼) inch round iron, let into the wall at least four (4) inches, with shoulder on brace, and three inches x three inches iron washers between shoulder and wall, and to extend down the wall four (4) feet from the top of the bracket, and out on the bracket-angle three (3) feet from the wall. In all cases the bracket angle directly under the balcony must be secured to the wall by means of bolts of suitable size passing through the wall, and four (4) inch washers. There must be also a two and one-quarter (2¼) inch angle iron between brackets riveted to the balcony angles for the slats to rest upon. Whenever the bottom balcony is supported by means of suspension rods (riveted or bolted) to the balcony above, the brackets (of the above balcony) shall be increased in size to meet the increased strain occasioned thereby. The bottom balcony to have a drop ladder of same construction as the stairway, to be hinged and hung with back arm balance weight:

Provided, That when the above manner of balancing ladder is impracticable, the Board may allow ladder to be counterbalanced with weight and chain, said weight, when practicable, to be hung within the platform railing, and rest upon platform, or there shall be provided a metal basket or bracket support sufficient to properly sustain or carry the counterbalance weight. The form of this device to be subject to the approval of the Inspector. Provided further, That the use of cables is hereby prohibited.

Wire screens to be provided, when in the judgment of the Board they are deemed necessary. In all cases bolts, rivets, and other material used shall be proportioned so as to develop the full strength of the members connected by them. All parts of such fire escapes must receive not less than two coats of paint—one coat in the shop and one after erection.

EDWIN CLARK,
President Bureau of Fire Escapes.

(Approved Philadelphia, December 20, 1906.)

FORMULA FOR CONSTRUCTION OF TOWER FIRE ESCAPE.

The said tower fire escape shall be divided from the building by, and completely enclosed with, brick walls or such other fire-proof materials as shall be accepted by the Bureau of Building Inspection. The said walls to be built solidly from the foundation to and at least 36 inches above the roof.

The roof of said tower shall be built of hard, incombustible materials.

The stairs of said tower may be iron or wood; but in all cases there must be provided stone or iron thresholds; iron frames, or wood frames covered with metal; and iron doors, or wood doors covered with tin. The rise of said stairs shall not be more than eight (8) inches and the tread not less than nine (9) inches. The entrance to said tower shall be by means of an outside balcony or an incombustible vestibule, of which one side shall be entirely open and extend from the top of floor to under side of ceiling and the full width of the tower. The said open side to face a street or such open space as provides for exit of said tower.

There shall be a brick wall, or other wall of hard, incombustible material, separating the tower from the vestibule. The opening into tower from said vestibule to be not over seven (7) feet in height. The floor, ceiling and sides of said vestibule to be of hard, incombustible material.

The rails enclosing the side facing the open space or street to be not over four (4) feet high and not less than three (3) feet, may be open or enclosed.

The entrance to the tower from the building shall be through the vestibule.

Towers that have not the fire-proof vestibule shall have outside balconies; floors of balconies to be solid, and built of hard, incombustible material and be of sufficient strength to carry the imposed weights.

The rails around said balconies shall be not over four (4) feet in height nor less than three (3) feet, and may be enclosed or open.

FORMULA ADOPTED BY THE BUREAU OF BUILDING INSPECTION.

The figures in compression given in Section 41 of Act approved May 5, 1899, shall be reduced for columns in proportion to length and least diameter according to following formula:

CAST IRON.

$$\frac{70000}{1 + \frac{L^2}{400\ D^2}}$$

WROUGHT IRON.

$$\frac{50000}{1 + \frac{L^2}{15000\ R^2}}$$

MILD STEEL.

$$\frac{58000}{1 + \frac{L^2}{13500\ R^2}}$$

MEDIUM STEEL.

$$\frac{65000}{1 + \frac{L^2}{11000\ R^2}}$$

In which "L" equals length of column in inches, and "R" equals least radius of gyration in inches, and "D" equals diameter or least side in inches.

FOR WOODEN COLUMNS:

$$U - \frac{UL}{100D}$$

In which "U" equals ultimate compression given above, and $\frac{\text{"L"}}{D}$ equals ratio of length to least diameter of column.

The allowable reduction of live load on columns and girders as mentioned in Section 43, of Act approved May 5, 1899, shall be as follows:

For all tenement houses, hotels, apartment houses, hospitals and office buildings the live loads on columns, girders and foundations may be estimated by the formula $X=100-\frac{4}{5}\sqrt{A}$, and for light manufacturing building by the formula $X=100-\frac{2}{3}\sqrt{A}$, in which "X" equals the percentage of live load to be used, and "A" equals area carried by any girder, column or foundation.

REGULATIONS

Of the Bureau of Building Inspection of the City of Philadelphia for the Testing of New Materials Used in Building Construction.

Apply to all new building materials.

1. These regulations are to apply to all such new materials as are used in building construction, in the same manner and for the same purposes, as natural stones, brick and concrete are now authorized by the Building Law, Rules and Regulations, of the Bureau of Building Inspection.

Application for test and use to be filed.

2. Before any such material is used in buildings, an application for its use and for a test of the same must be filed with the Bureau of Building Inspection. A description of the material and a brief outline of its manufacture must be embodied in the application.

Tests required.

3. The material must be subjected to the following tests: Transverse, Compression, Absorption and Freezing. Additional tests, including Fire test, may be called for when, in the judgment of the Chief of the Bureau of Building Inspection, the same may be desired or considered necessary. All such tests shall be made under the supervision of the Bureau, in the Philadelphia Testing Laboratory attached to the Bureau of Surveys.

4. The results of the tests, whether satisfactory or not, must be placed on file in the Bureau of Building Inspection. They shall be open to public inspection, but need not necessarily be published. Results to be filed.

5. For the purposes of the tests, at least 10 samples or test pieces must be provided. Such samples must represent the ordinary commercial product. They may be selected from stock by the Chief of the Bureau of Building Inspection, or his representative, or may be made in his presence, at his discretion. The samples must be approximately eight inches long, four inches wide and two inches thick. In cases where the material is made and used in special shapes or forms full size samples may also be called for and tested in such manner as may be directed by the Chief of the Bureau of Building Inspection, to determine the physical characteristic specified in Regulation 3. Samples to be provided.

6. The samples may be tested as soon as desired by the applicant but in no case later than sixty days after manufacture. Must be tested in 60 days.

7. The weight per cubic foot and specific gravity of the material must be determined. Weight and gravity to be determined.

8. These tests shall be made in series of at least five, except that in the fire tests a series of two (four samples) is sufficient. The transverse tests shall be made first on full-size samples (8 by 4 by 2). The resulting half samples are then used for the compression and absorption tests, but in no case must both halves of the same piece be used in either series. Half samples may also be used for the freezing and fire tests under the same restrictions. The remaining samples are kept in reserve, in case unusual flaws or exceptional or abnormal conditions make it necessary to Tests to be made in series.

Samples must be marked.

discard certain of the tests. All the samples must be marked for identification and comparison.

Transverse test.

9. The transverse test shall be made as follows: The sample shall be placed flatwise on two rounded knife-edge bearings set parallel, seven inches apart. A load is then applied on top, midway between the supports, and transmitted through a similar rounded edge, until the sample is ruptured. The modulus of rupture shall then be determined.

Compression test.

10. The Compression test shall be made as follows: The sample must first be thoroughly dried to a constant weight. It must be carefully measured, then bedded flatwise on blotting paper, to secure a uniform bearing in the testing machine, and crushed.

Absorption test.

11. The Absorption test must be made as follows: The sample is first thoroughly dried to a constant weight. The weight must be carefully recorded. It is then placed in a pan or tray of water, immersing it completely. It is again carefully weighed at the expiration of forty-eight hours from the time of immersion. Its compressive strength, while still wet, is then determined in the manner specified in Regulation 10.

Freezing test.

12. The Freezing test is made as follows: The sample is immersed, as described in Regulation 11, for at least four hours, and then weighed. It is then placed in a freezing mixture or a refrigerator, or otherwise subjected to a temperature of less than fifteen degrees Fahrenheit, for at least six hours. It is then removed and placed in water, where it must remain for at least one hour, the temperature of which is at least one hundred and fifty degrees Fahrenheit. This operation is re-

peated ten times, after which the sample is again weighed while still wet from last thawing. Its crushing strength should then be determined, as called for in Regulation 10.

13. The Fire test must be made as follows: Two samples are placed in a cold gas furnace, in which the temperature is gradually raised to seventeen hundred degrees Fahrenheit in one hour. One of the samples is then plunged in cold water (about fifty to sixty degrees Fahrenheit), and results noted. The second sample is permitted to cool gradually in air, and the results noted. Fire test.

14. The following requirements must be met to secure an acceptance of the materials. The modulus of rupture must average four hundred and fifty and must not fall below three hundred and fifty in any case. The ultimate compressive strength must average three thousand pounds per square inch and must not fall below twenty-five hundred in any case. The percentage of absorption (being the weight of water absorbed divided by the weight of the dry sample) must not average higher than fifteen per cent. and must not exceed twenty per cent. in any case. The reduction of compressive strength must not be more than thirty-three and one-third per cent., except that when the lower figure is still above three thousand pounds per square inch, the loss in strength may be neglected. The freezing and thawing process must not cause a loss in weight greater than ten per cent., nor loss in strength of more than thirty-three and one-third per cent., except that when the lower figure is still above three thousand pounds per square inch, the loss in strength may be neglected. The fire test must not cause the material to disintegrate.

Requirements to be met.

Modulus of rupture.

Ultimate compressive strength.

Percentage of absorption.

Reduction of compressive strength.

Loss in weight and strength from freezing and thawing.

Disintegration due to fire test.

Approval; under following conditions.

15. The approval of any material is given only under the following conditions:

(a) A brand mark for identification must be impressed on, or otherwise attached to the material.

(b) A plant for the production of the material must be in full operation when the official tests are made.

(c) The name of the firm or corporation and the responsible officers must be placed on file with the Chief of the Bureau of Building Inspection, and changes in same promptly reported.

(d) The tests must be repeated at any time when called for, on samples selected from the open market, when there is any doubt whether the product is up to the standard of these regulations.

(e) In case the results of tests made under this condition (d) should show that the standard of these regulations is not maintained, the approval of this Bureau will be at once suspended or revoked.

EDWIN CLARK,
Chief of the Bureau of Building Inspection.

Approved,
Sept. 28, 1906.
R. J. McKENTY,
Director

RULES AND REGULATIONS

Governing the use and manufacture of Hollow Concrete Building Blocks in the City of Philadelphia.

1. Hollow concrete building blocks may be used for buildings six stories or less in height where said use is approved by the Bureau of Building Inspection; Provided, however, that such blocks shall be composed of at least one (1) part of Stand-

ard Portland Cement, and not to exceed five (5) parts of clean, coarse, sharp sand or gravel, or a mixture of at least one part of Portland cement to five (5) parts of crushed rock or other suitable aggregate. Composition.

Provided, further that this section shall not permit the use of hollow blocks in party walls. Said party walls must be built solid. Not to be used in party walls.

2. All material to be of such fineness as to pass a one-half inch ring and be free from dirt or foreign matter. The material composing such blocks shall be properly mixed and manipulated, and the hollow space in said blocks shall not exceed the percentage given in the following table for different height walls, and in no case shall the walls or webs of the block be less in thickness than one-fourth of the height. The figures given in the table represent the percentage of such hollow space for different height walls. Percentage of hollow space.

Stories.	1st.	2nd.	3rd.	4th.	5th.	6th.
1 and 2	33	33				
3 and 4	25	33	33	33		
5 and 6	20	25	25	33	33	33

3. The thickness of walls for any building where hollow concrete blocks are used shall not be less than is required by law for brick walls. Thickness of walls.

4. Where the face only is of hollow concrete building block, and the backing is of brick, the facing of hollow concrete blocks must be strongly bonded to the brick either with headers projecting four (4) inches into the brick work, every fourth course being a heading course, or with approved ties; no brick backing to be less than (8) eight inches. Where the walls are made entirely of hollow concrete To be bonded.

blocks, but where said blocks have not the same width as the wall, every fifth course shall extend through the wall, forming a secure bond. All walls, where blocks are used, shall be laid up in Portland Cement Mortar.

Age of blocks.

5. All hollow concrete building blocks, before being used in the construction of any building in the City of Philadelphia, shall have attained the age of at least three (3) weeks.

Blocks to be made solid under concentrated load, etc.

6. Wherever girders or joists rest upon walls so that there is a concentrated load on the block of over two (2) tons, the blocks supporting the girder or joists must be made solid. Where such concentrated load shall exceed five (5) tons, the blocks for two (2) courses below, and for a distance extending at least eighteen inches each side of said girder, shall be made solid. Where the load on the wall from the girder exceeds five (5) tons, the blocks for three (3) courses beneath it shall be made solid with similar material as in the blocks. Wherever walls are decreased in thickness, the top course of the thicker wall to be solid.

Maximum load.

Crushing strength.

7. Provided always, that no wall, or any part thereof, composed of hollow concrete blocks shall be loaded to an excess of eight (8) tons per superficial foot of the area of such blocks, including the weight of the wall, and no blocks shall be used that have an average crushing at less than 1000 pounds per square inch of area at the age of twenty-eight (28) days; no deduction to be made in figuring the area for the hollow spaces.

Piers and buttresses.

8. All piers and buttresses that support loads in excess of five (5) tons, shall be built of solid concrete blocks for such distance below as may be required by the Bureau of Building Inspection. Concrete

lintels and sills shall be reinforced by iron or steel rods in a manner satisfactory to the Bureau of Building Inspection, and any lintels spanning over four feet six inches in the clear shall rest on solid concrete blocks. Sills and lintels.

9. Provided, that no hollow concrete building blocks shall be used in the construction of any building in the City of Philadelphia, unless the maker of said blocks has submitted his product to the full test required by the Bureau of Building Inspection, and placed on file with said Bureau of Building Inspection a certificate from a reliable testing laboratory showing that samples from the lot of blocks to be used have successfully passed the requirements of the Bureau of Building Inspection, and filing a full copy of the test with the Bureau. Blocks to be tested. Certificate to be filed.

10. A brand or mark of identification must be impressed in, or otherwise permanently attached to, each block for purpose of identification. Brand.

11. No certificate of approval shall be considered in force for more than four months, unless there be filed with the Bureau of Building Inspection, in the City of Philadelphia, at least once every four months following, a certificate from some reliable physical testing laboratory showing that the average of three (3) specimens tested for compression, and three (3) specimens tested for transverse strength, comply with the requirements of the Bureau of Building Inspection of the City of Philadelphia; samples to be selected either by a Building Inspector or by the laboratory, from blocks actually going into construction work. Samples must not be furnished by the contractors or builders. Approval limited to 4 months.

12. The manufacturer and user of any

Cement to be tested.

such hollow concrete blocks as are mentioned in this regulation, or either of them, shall, at any and all times, have made such tests of the cements used in making such blocks, or such further tests of the completed blocks, or of each of these, at their own expense, and under the supervision of the Bureau of Building Inspection, as the Chief of said Bureau shall require.

Portland cement to be used.

13. The cement used in making said blocks shall be Portland cement, and must be capable of passing the minimum requirements as set forth in the "Standard Specifications for Cement" by the American Society for Testing Materials.

Defective blocks to be condemned.

14. Any and all blocks, samples of which, on being tested under the direction of the Bureau of Building Inspection, fail to stand at twenty-eight (28) days the tests required by this regulation, shall be marked "condemned" by the manufacturer or user, and shall be destroyed.

15. No concrete blocks shall be used in the construction of any building within the City of Philadelphia until they shall have been inspected, and average samples of the lot tested, approved and accepted by the Chief of Building Inspectors.

SPECIFICATIONS GOVERNING METHOD OF TESTING HOLLOW BLOCKS.

1. These regulations shall apply to all such new materials as are used in building construction, in the same manner and for the same purposes, as stones, brick and concrete are now authorized by the Building Laws, when said new material to be substituted departs from the general shape and dimensions of ordinary building brick, and more particularly to that form

of building material known as "Hollow Concrete Block," manufactured from cement and a certain addition of sand, crushed stone or similar material.

2. Before any such material is used in buildings, an application for its use and for a test of the same must be filed with the Chief of the Bureau of Building Inspection. A description of the material and a brief outline of its manufacture and proportions of the materials used must be embodied in the application.

Tests required.

3. The material must be subjected to the following test: Transverse, Compression, Absorption, Freezing, and Fire. Additional tests may be called for when, in the judgment of the Chief of the Bureau of Building Inspection, the same may be necessary. All such tests must be made in some laboratory of recognized standing, under the supervision of the engineer of the Bureau of Building Inspection. The tests will be made at the expense of the applicant.

Results to be filed.

4. The results of the tests, whether satisfactory or not, must be placed on file in the Bureau of Building Inspection. They shall be open to inspection upon application to the Chief of the Bureau, but need not necessarily be published.

Samples to be provided.

5. For the purposes of the tests, at least twenty (20) samples or test pieces must be provided. Such samples must represent the ordinary commercial product. They may be selected from stock by the Chief of the Bureau of Building Inspection, or his representative, or may be made in his presence, at his discretion. The samples must be of the regular size and shape used in construction. In cases where the material is made and used in special shapes and forms, too large for testing in the ordinary machines, smaller sized specimens shall be used as may be

directed by the Chief of Building Inspection, to determine the physical characteristic specified in Section 3.

Tests to be made in 60 days.

6. The samples may be tested as soon as desired by the applicant, but in no case later than sixty (60) days after manufacture.

Weight to be determined.

7. The weight per cubic foot of the material must be determined.

8. Tests shall be made in series of at least five, except that in the fire tests a series of two (four samples) are sufficient. Transverse tests shall be made on full sized samples. Half samples may be used for the crushing, freezing and fire tests. The remaining samples are kept in reserve, in case unusual flaws or exceptional or abnormal conditions make it necessary to discard certain of the tests. All samples must be marked for identification and comparison.

Transverse test.

9. The Transverse test shall be made as follows: The samples shall be placed flatwise on two rounded knife edge bearings set parallel seven inches apart. A load is then applied on top, midway between the supports, and transmitted through a similar rounded knife edge, until the sample is ruptured. The modulus of rupture shall then be determined by multiplying the total breaking load in pounds by twenty-one (three times the distance between supports in inches) and then dividing the result thus obtained by twice the product of the width in inches by the square of the depth in inches. $R=\frac{3\ w\ l}{2\ b\ d^2}$ No allowance should be made in figuring the modulus of rupture for the hollow spaces.

Compression test.

10. The Compression test shall be made as follows: Samples must be cut from blocks so as to contain a full web section. The sample must be carefully measured,

then bedded flat-wise in Plaster of Paris, to secure a uniform bearing in the testing machine, and crushed. The total breaking load is then divided by the area in compression in square inches. No deduction to be made for hollow spaces; the area will be considered as the product of the width by the length.

Absorption test.

11. The Absorption test must be made as follows: The sample is first thoroughly dried to a constant weight. The weight must be carefully recorded. It is then placed in a pan or tray of water, face downward, immersing it to a depth of not more than one-half inch. It is again carefully weighed at the following periods: Thirty minutes, four hours, and forty-eight hours, respectively, from the time of immersion, being replaced in the water in each case as soon as the weight is taken. Its compressive strength, while still wet, is then determined at the end of the forty-eight hours period, in the manner specified in section 10.

Freezing test.

12. The Freezing test is made as follows: The sample is immersed, as described in section 11, for at least four hours, and then weighed. It is then placed in a freezing mixture or a refrigerator, or otherwise subjected to a temperature of less than 15 degrees F. for at least 12 hours. It is then removed and placed in water, where it must remain for at least one hour, the temperature of which is at least 150 degrees F. This operation is repeated ten (10) times, after which the sample is again weighed while still wet from the last thawing. Its crushing strength should then be determined as called for in section 10.

Fire test.

13. The Fire test must be made as follows:—Two samples are placed in a cold furnace in which the temperature is gradually raised to 1700 degrees F. The test

piece must be subjected to this temperature for at least 30 minutes. One of the samples is then plunged in cold water (about 50 degrees to 60 degrees F.) and the results noted. The second sample is permitted to cool gradually in air, and the results noted.

Modulus of rupture.

14. The following requirements must be met to secure an acceptance of the materials: The Modulus of Rupture for concrete blocks at 28 days old must average one hundred and fifty and must not fall below one hundred in any case. The ultimate compressive strength at 28 days must average one thousand pounds per square inch and must not fall below seven hundred in any case. The percentage of absorption (being the weight of water absorbed divided by the weight of the dry sample) must not average higher than 15 per cent and must not exceed 20 per cent in any case. The reduction of compressive strength must not be more than thirty-three and one-third per cent, except that when the lower figure is still above one thousand pounds per square inch the loss in strength may be neglected. The freezing and thawing process must not cause a loss in weight greater than ten per cent, nor a loss in strength of more than thirty-three and one-third per cent; except that when the lower figure is still above one thousand pounds per square inch, the loss in strength may be neglected. The Fire test must not cause the material to disintegrate.

Ultimate compressive strength.

Conditions for approval.

15. The approval of any material is given only under the following conditions:

a. A brand mark for identification must be impressed on, or otherwise attached to, the material.

b. A plant for the production of the material must be in full operation when the official tests are made.

c. The name of the firm or corporation and the responsible officers must be placed on file with the Chief of Bureau of Building Inspection, and changes in same promptly reported.

d. The Chief of the Bureau of Building Inspection may require full tests to be repeated on samples selected from the open market when, in his opinion, there is any doubt as to whether the product is up to the standard of these regulations, and the manufacturer must submit to the Bureau of Building Inspection, once in at least every four months, a certificate of tests showing that the average resistance of three specimens to cross breaking and crushing are not below the requirements of these regulations. Such tests must be made by some laboratory of recognized standing on samples selected either by a Building Inspector or the laboratory, from material actually going into construction, and not on those furnished by the manufacturer.

e. In case the results of tests made under this condition (d.) should show that the standard of these regulations is not maintained, the approval of this bureau to the manufacture of said blocks will at once be suspended or revoked.

REGULATIONS

Of the Bureau of Building Inspection in Regard to the Use of Reinforced Concrete in the City of Philadelphia.

"Reinforced concrete" defined.

The term "reinforced concrete" shall be understood to mean an approved concrete mixture reinforced by steel or iron of any shape, so that the steel or iron will take up all the tensional stresses and assist in the resistance to compression and shear.

Plans to be filed.

Before a permit to erect any reinforced concrete structure is issued, complete specifications and drawings shall be filed with the Bureau of Building Inspection, showing all details of the construction, size and position of all reinforcing rods, stirrups, etc., and giving the composition and proportions of the concrete.

Foreman or superintendent.

The execution of the work shall be performed by workmen under the direct supervision of a competent foreman or superintendent.

Aggregate.

Flooring.

Minimum thickness of fireproofing.

Reinforced concrete construction will be accepted for fireproof buildings of the first class, if designed as hereinafter prescribed; provided, that the aggregate for such concrete shall be clean, broken, hard stone, or clean graded gravel, together with clean siliceous sand or fine grained gravel; should the concrete be used for flooring between rolled steel beams, clean furnace clinkers entirely free of combustible matter, or suitable seasoned furnace slag may be used; when stone is used with sand or gravel it must be of a size to pass through a one inch ring, and 25% of the whole must not be more than one-half the maximum size; and provided further, that the minimum thickness of concrete surrounding the reinforcing members of reinforced concrete beams and girders shall be two inches on the bottom and one and one-half inches on the sides of the said beams and girders. The minimum thickness of concrete under slab rods shall be one inch. All reinforcement in columns to have a minimum protection of two inches of concrete.

Flooring, beams, etc.

All the requirements herein specified for the protection of steel and for fire-resisting purposes shall apply to reinforced concrete flooring between rolled-steel beams, as well as to reinforced concrete beams and to entire structures in reinforcd con-

Metal centering.

crete. Any concrete structure or the floor filling in same, reinforced or otherwise, which may be erected on a permanent centering of sheet metal, of metal lathing and curved bars or a metal centering of any other form, must be strong enough to carry its load without assistance from the centering, unless the concrete is so applied as to protect the centering as herein specified for metal reinforcement.

Exposed metal.

Exposed metal centering or exposed metal of any kind will not be considered a factor in the strength of any part of any concrete structure, and a plaster finish applied over the metal shall not be deemed sufficient protection unless applied of sufficient thickness and properly secured, as approved by the Chief of the Bureau of Building Inspection.

Plaster finish.

Mechanical mixing.

All concrete shall be mixed in a mechanical batch mixer to be approved by the Bureau of Building Inspection, except when limited quantities are required or when the condition of the work makes hand mixing preferable; hand mixing to be done only when approved by the Bureau of Building Inspection. In all mixing the material shall be measured for each batch.

Hand mixing.

Material to be measured.

Method for hand mixing.

When hand mixing is done under the aforesaid limitations, the cement and fine gravel or coarse sand shall be first thoroughly mixed dry and then made into a mortar by gradually adding the proper amount of water. The crushed stone or gravel shall be spread out to a depth not to exceed six inches, in a tight box or upon a proper floor, and be sprinkled with water as directed; the mortar is then to be evenly spread over the crushed stone, and the whole mass turned over a sufficient number of times, to effect the thorough mixing of the ingredients.

Forms and centering.

All forms and centering for concrete shall be built plumb and in a substantial manner, made tight so that no part of the concrete mixture will leak out through cracks or holes, or joints, and after completion shall be thoroughly cleaned, removing shavings, chips, pieces of wood and other material, and no debris of any kind shall be permitted to remain in the forms. All forms to be properly supported and braced in a manner to safely sustain the dead load and the load that may be imposed upon them during construction.

Reinforcing steel.

The reinforcing steel shall be accurately located in the forms and secured against displacement.

Concrete shall be placed immediately after mixing.

When fresh concrete joins set concrete.

Whenever fresh concrete joins concrete that is set, or partially set, the surface of the old concrete shall be roughened, cleaned and spread with cement mortar, which mortar shall be mixed in proportions of one of cement to two of sand.

Freezing weather.

Concrete shall not be mixed or deposited in freezing weather, unless precautions are taken to avoid the use of materials covered with ice or snow or that are in any other way unfit for use, and that further precautions are taken to prevent the concrete from freezing after being put in place. All forms under concrete so placed to remain until all evidences of frost are absent from the concrete and the natural hardening of the concrete has proceeded to the point of safety.

Hot weather.

Concrete laid during hot weather shall be drenched with water twice daily, Sunday included, during the first week. The broken stone, if hot and dry, must be wet before going to the mixer.

Props or shores, column forms and centering; when may be removed.

The time at which props or shores may safely be removed from under floors and roofs will vary with the condition of the weather, but in no case should they be removed in less than two weeks; provided, that column forms shall not be removed in less than four days; provided further, that the centering from the bottom of slabs and sides of beams and girders may be removed after the concrete has set one week, provided, that the floor has obtained sufficient hardness to sustain the dead weight of the said floor and that no load or weight shall be placed on any portion of the construction where the said centers have been removed.

Composition; proportions to be used.

The concrete for all girders, beams, slabs and columns, shall be mixed in the proportions of one of cement, two of sand or fine gravel, and four of other aggregates as before provided. The concrete used in reinforced concrete-steel construction must be what is usually known as a "wet" mixture. When the concrete is placed in water it must be placed in a semi-dry state.

Wet mixture.

Portland cement, to be tested.

Only Portland cement shall be permitted in reinforced concrete constructed buildins. All cement shall be tested, in carload lots when so delivered or in quantities equal to same, and report filed with the Bureau of Building Inspection before using it in the work. Cement failing to meet the requirements of the accelerated test will be rejected.

Accelerated test.

Soundness, Accelerated Test.—Pats of neat cement will be allowed to harden twenty-four hours in moist air, and then be submitted to the accelerated test as follows: A pat is exposed in any convenient way in an atmosphere of steam, above boiling water, in a loosely-closed vessel, for three hours, after which, before the pat cools, it is placed in the boiling water for five additional hours.

To pass the accelerated test satisfactorily, the pats shall remain firm and hard, and show no signs of cracking, distortion or disintegration.

Tensile strength of neat cement.

Such cements, when tested shall have a minimum tensile strength as follows: Neat cement shall, after one da in moist air, develop a tensile strength of at least 150 pounds per square inch; and after one day in air and six days in water shall develop a tensile strength of at least 500 pounds per square inch; and after one day in air and twenty-seven days in water shall develop a tensile strength of at least 600 pounds per square inch.

Tensile strength of cement and sand.

Cement and sand tests composed of one part of cement and three parts of crushed quartz shall, after one day in air and six days in water, develop a tensile strength of at least 175 pounds per square inch, and after one day in air and twenty-seven days in water shall develop a tensile strength of at least 240 pounds per square inch.

Other tests may be required.

These and other tests as to fineness, set, etc., made in accordance with the standard method prescribed by the American Society of Civil Engineers, may, from time to time, be required by the Bureau of Building Inspection.

Reinforced concrete walls; thickness of, etc.

Walls.—Reinforced concrete may be used in place of brick and stone walls, in which cases the thickness may be two-thirds of that required for brick walls as shown in the Schedule, Section 18 of the Act of Assembly No. 123, of the Commonwealth of Pennsylvania, approved June 5, 1901, provided the unit stresses as set forth in these regulations are not exceeded.

Concrete walls in such cases must be reinforced in both directions in a manner to meet the approval of the Chief of the Bureau of Building Inspection.

Steel:—All reinforcements used in reinforced concrete shall be of standard grade of structural steel or iron of either grade to meet the "Manufacturers' Standard Specifications," revised February 3, 1903. Reinforcements to be of standard grade.

Reinforced concrete slabs, beams and girders shall be designed in accordance with the following assumptions and requirements: Assumptions.

(a) The common theory of flexure to be applied to all beams and members resisting bending. Flexure.

(b) The adhesion between the concrete and the steel is sufficient to make the two materials act together. Adhesion.

(c) The design shall be based on the assumption of a load four times as great as the total load (ordinary dead load plus ordinary live load). Load

(d) The steel to take all the tensile stresses. Tensile stress.

(e) The stress-strain curve of concrete in compression is a straight line.

(f) The ratio of the moduli of elasticity of concrete to steel: Moduli of elasticity.

Stone or gravel concrete	1 to 12.
Slag concrete	1 to 15.
Cinder concrete	1 to 30.

The allowable unit transverse stress upon concrete in compression: Transverse stress in compression.

Stone or gravel concrete	600 lbs. per sq. in.
Slag concrete	400 " " " "
Cinder concrete	250 " " " "

The allowable unit transverse stress in tension: Steel stress in tension.

Iron	12,000 lbs. per sq. in.
Steel	16,000 " " " "

Shearing strength.

The allowable unit shearing strength upon concrete:

Stone or gravel concrete	75 lbs. per. sq. in.
Slag concrete	50 " " " "
Cinder concrete	25 " " " "

Adhesive strength.

The allowable unit adhesive strength of concrete:

Stone or gravel concrete	50 lbs. per. sq. in.
Slag concrete	40 " " " "
Cinder concrete	15 " " " "

Stresses in direct compression in columns.

The allowable unit stresses upon concrete in direct compression in columns:

Stone or gravel concrete	500 lbs. per. sq. in.
Slag concrete	300 " " " "
Cinder concrete	150 " " " "

Stress upon hoop columns.

The allowable unit stress upon hoop columns composed of stone or gravel concrete shall not be over 1,000 pounds per square inch, figuring the net area of the circle within the hooping. The percentage of longitudinal rods and the spacing of the hoops to be such as to permit the concrete to safely develop the above unit stress with a factor of safety of four.

Factor of safety.

Steel or iron in compression; proportion of stress.

Approval of Chief required.

When steel or iron is in the compression sides of beams the proportion of unit stress taken by the steel or iron shall be in the ratio of the modulus of elasticity of the steel or iron to the modulus of elasticity of the concrete; provided, that the rods are well tied with stirrups connecting with the lower rods of the beams; provided, further, that when rods are used in compression, the approval of the Chief of the Bureau of Building Inspection must be obtained.

Beams and girders to be treated as T-beams.

In the design of structures involving reinforced concrete beams and girders, as well as slabs, the beams and girders shall be treated as T-beams, with a portion of the slab acting as flange in each case. The portion of the slab that may be used to

take compression shall be dependent upon the horizontal shearing stress that may exist in the beam, and in no case shall the slab portion exceed twenty (20) times the thickness of the slab.

Special reinforcement at junction of beams and girders.

All reinforced concrete T-beams must be reinforced against the shearing stress along the plane of junction of the rib and the flange, using stirrups throughout the length of the beam. Where reinforced concrete girders carry reinforced concrete beams, the portion of the floor slab acting as flange to the girder must be reinforced with bars near the top, at right angles to the girder, to enable it to transmit local loads directly to the girder and not through the beams, thus avoiding an integration of compressive stresses due to simultaneous action as floor slab and girder flange.

Field work must be monolithic.

In the execution of work in the field, work must be so carried on that the ribs of all girders and beams shall be monolithic with the floor slabs.

Local and secondary stresses.

In all reinforced concrete structures special care must be taken with the design of joints to provide against local stresses and secondary stresses due to the continuity of the structures.

Shrinkage and thermal stresses.

Shrinkage and thermal stresses shall be provided for by the introduction of steel.

Bending moments; no allowance for continuous beams and girders.

In the determination of bending moments due to the external forces, beams and girders shall be considered as simply supported at the ends, no allowance being made for continuous construction over supports. Floor slabs, when constructed continuously, and when provided with reinforcement at top of slab over the supports, may be treated as continuous beams, the bending moment for uniformly distributed loads being taken at not less than $\frac{WL}{10}$ in case of square floor slabs which are rein-

Continuous floor slabs; bending moment.

forced in both directions and supported on all sides, the bending moment may be taken at $\frac{WL}{20}$; provided, that in floor slabs in juxtaposition to the walls of the building the bending moment shall be considered as $\frac{WL}{8}$, when reinforced in one direction, and if the floor slab is square and reinforced in both directions, the bending moment shall be taken as $\frac{WL}{16}$.

Excessive shear.

When the shearing stresses developed in any part of a reinforced concrete building exceed under the multiplied loads the shearing strength as fixed in this section, a sufficient amount of steel shall be introduced in such a position that the deficiency in the resistance to shear is overcome.

Adhesion.

When the safe limit of adhesion between the concrete and steel is exceeded, provision must be made for transmitting the strength of the steel to the concrete.

Columns.

Reinforced concrete may be used for columns in which the ratio of the length to least side or diameter does not exceed fifteen (15). If more than 15 diameters the allowable stress shall be decreased proportionally. Reinforcing rods that are introduced for lateral stresses must be tied together at intervals of not more than the least side or diameter of the columns.

Longitudinal reinforcing rods will not be considered as taking any direct compression.

Load tests required.

The contractor must be prepared to make load tests in any portion of a reinforced concrete building within a reasonable time after erection, and as often as may be required by the Chief of the Bureau of Building Inspection. The tests must show that the construction will sustain a load equal to twice the calculated live load without signs of cracks.

Systems of construction differing from the standard already approved and tested, may be required to pass a load, fire and water test, as present in Section 2 of the Act of Assembly, No. 236, of the Commonwealth of Pennsylvania, approved April 25, 1903. Load, fire and water tests for other systems.

The Chief of the Bureau of Building Inspection may, from time to time, issue such modifications to these regulations as may be found necessary to conform to modern practice. Revision of rules.

Approved, 10-8-07.

HENRY CLAY,
Director of the Dept. of
Public Safety.

RULES AND REGULATIONS

Governing the Installation of Asbestos Theatre Curtains, and Minor Details, in the City of Philadelphia.

1. The proscenium wall (between the stage and the auditorium) shall be a substantial self-supporting masonry or other fire-proof wall, with as few openings in it as possible, and shall extend from the ground up and through the highest roof and four feet above same. Proscenium wall to be fireproof.

2. Any openings, other than the proscenium opening, through this wall, shall be protected by positive acting, self-closing, fire-proof doors constructed in accordance with the requirements of the Department of Public Safety; these doors shall be either hinged at the side to swing or run on an overhead rail to slide sideways. If they swing, they shall be made self-closing by means of a heavy weight and phosphor bronze chain and pulley arrangement, the pulley being guarded so that the chain cannot jump off; if they slide the overhead Fire doors; to be self-closing.

rail shall have a sharp inclination so as to make them self-closing, and shall be arranged so that the door cannot jump the track or jam. No doors that slide up or down and no fusible link arrangement for holding doors open will be allowed. All of these doors shall be kept free from locks or fastenings of any kind and shall be so that they can be opened from either side at any time.

3. Across the proscenium opening the wall shall be carried up through the stage floor and up to the under side of the top flooring.

Curtain to be asbestos.

4. The proscenium curtain shall be composed of asbestos of long, tough, flexible fibre, twisted and wrapped upon substantial brass wire thread, and woven into a close even cloth, three (3) feet wide. The strips to be lapped not less than an inch and sewed with two lines of asbestos and brass wire thread stitching. All strips shall be in one continuous length the full height of the curtain. There shall be at least four (4) laps of the cloth at the top and at the bottom of the curtain to form pockets for the top and bottom bars, the laps to have at least three (3) lines of the above mentioned stitching. The curtain shall be lapped on the sides of a sufficient width to form a continuous reinforcement for the guide clips, and be stitched in a proper manner.

Width of curtain.

The curtain shall be at least thirty-six (36) inches wider than the proscenium masonry opening and at least two (2) feet higher than the highest point of the proscenium arch. It shall have wrought iron

How constructed.

or rolled steel top and bottom bars proportional in size to the width of the curtain, but not less than one (1) inch by two and one-half (2½) inches. The top and bottom bars shall be connected by

four (4) steel wire cables 3-16 inch diameter to support the weight of the bottom bar. The curtain guide clips at the sides shall be constructed of substantial bent brass attached to the curtain and encircling lignum-vitae blocks which in turn encircle the standing cables. Where the clips are attached to the curtain, the curtain shall be reinforced, both sides, with pieces of sheet metal riveted to it. The guide clips shall be spaced not over 18 inches center to center. The standing cables shall be of steel ⅜ inch diameter with their upper ends attached to wrought iron brackets fastened to the proscenium wall at a line at least twice the height of the curtain plus 5 feet above the level of the stage. The standing cables shall pass through metal bushed holes in the stage floor, and have suspended from their lower ends, weights of sufficient size to keep them taut. The curtain shall be supported by steel lifting cables, one at each end, and one at intermediate points not over ten (10) feet apart. These cables shall be ½ inch diameter and shall be attached to drums keyed fast to a heavy rolled steel operating shaft. The operating shaft shall run in machined and self-lubricating journals, one on each side of each drum and one at each end. The journals shall rest on substantial fire-proof supports. The curtain shall be balanced by a counterweight only to such an extent that when it is tripped it shall descend in 15 seconds. The manner of tripping the curtain shall be by means of 5-16 inch steel cables, one on each side of the curtain; these, whenever pulled, shall release the curtain and allow it to descend. The trip cables shall run from the stage level up along each side of the curtain and pass over the gridiron to the releasing clutch on the operating shaft; they shall be placed in such a

Standing cables.

Lifting cables.

Counterweight.

Tripping device.

Emergency chains.

manner that they can be operated from the stage level, fly-galleries and gridiron at any time, and the apparatus must be so that the curtain will be positively self-descending. There shall be attached to the top bar of the curtain substantial emergency chains, of three eighths (⅜) inch wrought iron, spaced midway between the lifting cables and securely fastened at their upper ends to eye-bolts through the proscenium wall at proper height.

Guides.

The curtain shall operate in guides, bolted every two (2) feet, with not less than ½ inch bolts through the proscenium wall; these guides shall run from the stage level to a height of twice the height of the curtain plus 5 feet, and shall be constructed, each of one 8 inch by 6 inch by ½ inch angle and one 3 inch by 3 inch by ½ inch angle, or equivalent section, riveted together to form a Z bar. All apparatus connected with the curtain or its operation shall be of metal; where anything is secured to parts of the building these parts shall be substantial and incombustible, and all curtain connections shall be secure and fire-proof. Any paint used on the curtain shall be incombustible. No flaps or doors of any kind shall be allowed in the curtain, and the curtain and its apparatus shall be maintained in perfect repair and working order at all times. The curtain to be operated at least once during each performance, not counting the raising at the beginning and the lowering at the end of the performance.

Curtain to be operated during performance.

Border decorations.

5. The border decorations around the proscenium opening at least as far as 12 inches from the curtain, shall be fire-proofed. No hanging curtains that are not fire-proofed shall be placed on the auditorium side of the proscenium opening, or in any case nearer than 10 inches to the asbestos curtain.

Border lights.

6. The vertical border lights at the proscenium shall be located inside the asbestos curtain and in substantial metal receptacles, and shall be permanently fixed in position. Hinged or movable border lights will not be allowed under any circumstances, and the receptacle for the border lights shall be absolutely clear in every way from any possible contact with the curtain.

Skylight over stage required.

7. Every stage shall have a skylight over it at least one-eighth (⅛) the area of the stage, and built in accordance with the requirements of the present building laws for new theatres.

Fireproofing.

8. All stage-scenery, woodwork, curtains or decorations shall be fire-proof, or shall be treated with some approved non-combustible material, so as to render them safe against any rapid spread of fire, and shall be constantly maintained to the satisfaction of the Department of Public Safety. This applies to visiting companies or shows, as well as local companies.

Sprinklers over stage, etc.

9. A system of sprinklers, to be approved by the Department of Public Safety, shall be erected and maintained all over the stage portion of the building, including the rigging-loft, fly galleries, cellar under stage, dressing rooms, shops, property-rooms, storage-rooms and over the proscenium arch; and also if there is a cellar under any portion of the building besides the stage, this must be provided with sprinklers as aforesaid.

Cellar to be kept clean.

10. The cellar under the stage and under any other part of the building shall be kept clean and free from non-fire-proof material.

AN ORDINANCE

Regulating the construction of reviewing stands.

Section 1. The Select and Common Councils of the City of Philadelphia do ordain, That hereafter any person or persons, firms or corporations, who desire to erect any stand for the purpose of reviewing any parade, procession, or festivity of any kind whatsoever, shall first obtain permission so to do from the Director of the Department of Public Safety. Upon said permission being granted to the said person or persons, firms or corporations, they shall make application to the Bureau of Building Inspection of the Department of Public Safety for permit to erect the said stand, the fee for the inspection of which shall be two (2) dollars for a stand of a superficial area of five hundred (500) feet or less, and the further sum of one ((1) dollar for each additional five hundred (500) feet or fraction thereof, superficial area. All such stands must be erected in conformity with the conditions and regulations established by the said Bureau of Building Inspection. The Director of the Department of Public Safety shall have the right to prohibit the use of and revoke the permit for the erection of any stand upon report from the Chief of the Bureau of Building Inspection that any of the conditions or regulations of the said Bureau of Building Inspection have been violated.

Permit required.

Fee.

Permit may be revoked.

Penalty.

Sect. 2. Any person or persons, firms or corporations, whether owner, builder or contractor, who shall erect any stand for reviewing purposes without permit therefor first issued or in violation of any of the provisions of this ordinance, or who

shall become the owner thereof after the same has been so done, and who shall omit, neglect, or refuse to remove or make the said stand conform in all respects to the requirements of this ordinance immediately upon notice to that effect from the Bureau of Building Inspection shall forfeit and pay for such offence the sum of seventy-five (75) dollars, the said penalty to be recovered as penalties of equal amount are or shall be recoverable in the name of and for the use of the City, and when collected shall be paid into the treasury thereof.

Sect. 3. All ordinances or parts of ordinances inconsistent herewith be and the same are hereby repealed. Repealer.

Approved the seventeenth day of October, A. D. 1898.

CHAS. F. WARWICK,
Mayor of Philadelphia.

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